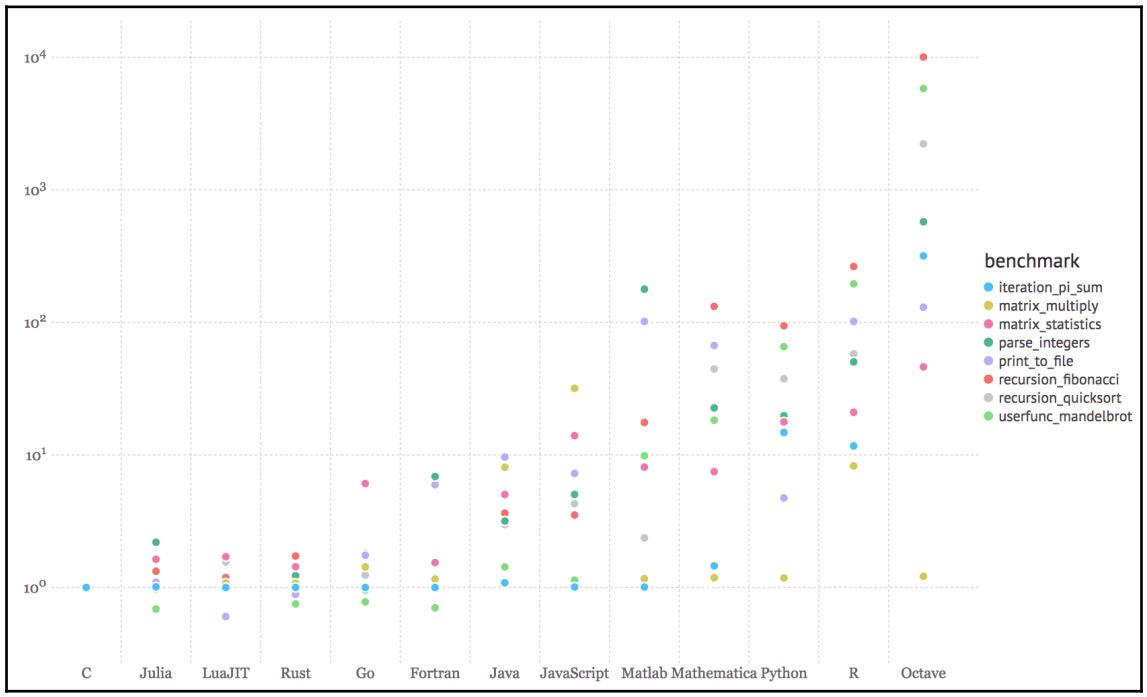
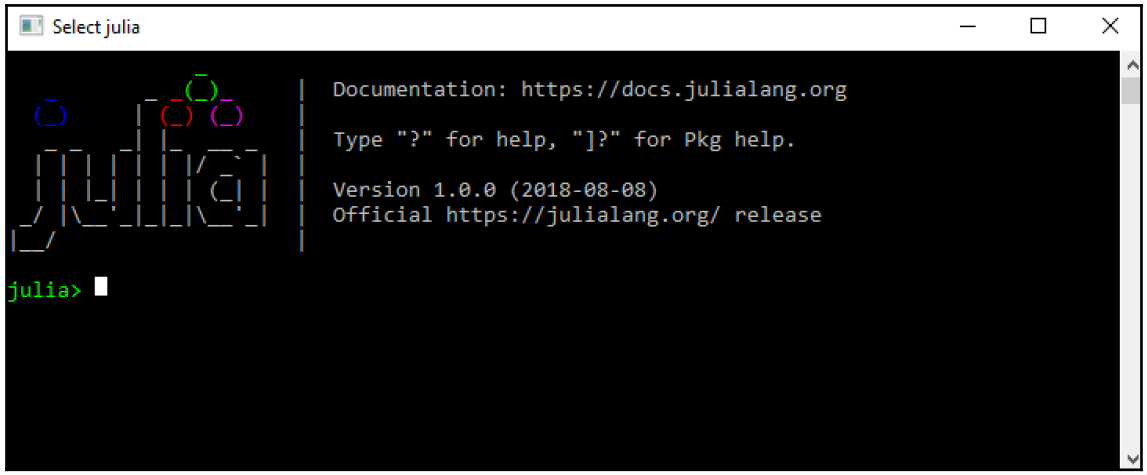
Chapter 1: Getting Started with Julia Programming

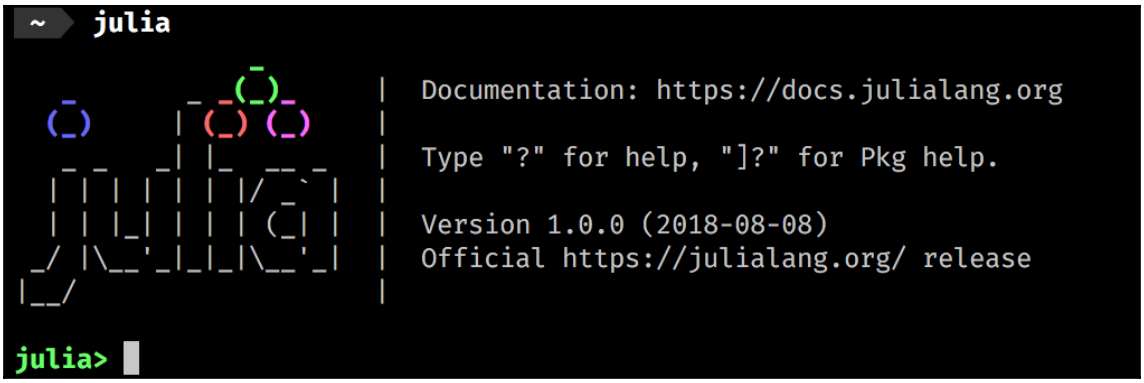





Documentation: https://docs.julialang.org
Type "?" for help, "]?" for Pkg help.
Version 1.0.0 (2018-08-08)
Official https://julialang.org/ release
julia>


==> Installing Cask julia
==> Moving App 'Julia-1.0.app' to '/Applications/Julia-1.0.app'.
==> Linking Binary 'julia' to '/usr/local/bin/julia'.
julia was successfully installed!
~ julia
Documentation: https://docs.julialang.org
Type "?" for help, "]?" for Pkg help.
Version 1.0.0 (2018-08-08)
Official https://julialang.org/ release
julia>


~ docker run -it --rm julia
Documentation: https://docs.julialang.org
Type "?" for help, "]?" for Pkg help.
Version 1.0.0 (2018-08-08)
Official https://julialang.org/ release
julia>




```
help?> Profile.print
WARNING: Base.Profile is deprecated, run `using Profile` instead
 in module Main
WARNING: Base.Profile is deprecated, run `using Profile` instead
 in module Main
  print([io::IO = stdout,] [data::Vector]; kwargs...)

  Prints profiling results to io (by default, stdout). If you do not supply a data vector, the internal buffer of
  accumulated backtraces will be used.

  The keyword arguments can be any combination of:

    •   format – Determines whether backtraces are printed with (default, :tree) or without (:flat) indentation
        indicating tree structure.

    •   C – If true, backtraces from C and Fortran code are shown (normally they are excluded).

    •   combine – If true (default), instruction pointers are merged that correspond to the same line of code.

    •   maxdepth – Limits the depth higher than maxdepth in the :tree format.

    •   sortedby – Controls the order in :flat format. :filefuncline (default) sorts by the source line, whereas
        :count sorts in order of number of collected samples.

    •   noisefloor – Limits frames that exceed the heuristic noise floor of the sample (only applies to format
        :tree). A suggested value to try for this is 2.0 (the default is 0). This parameter hides samples for
        which n ≤ noisefloor * √N, where n is the number of samples on this line, and N is the number of
        samples for the callee.

    •   mincount – Limits the printout to only those lines with at least mincount occurrences.

  ──────────────────────────────────────────────────────────────────────────────

  print([io::IO = stdout,] data::Vector, lidict::LineInfoDict; kwargs...)

  Prints profiling results to io. This variant is used to examine results exported by a previous call to retrieve.
  Supply the vector data of backtraces and a dictionary lidict of line information.

  See Profile.print([io], data) for an explanation of the valid keyword arguments.
```

```
  @time

  A macro to execute an expression, printing the time it took to execute, the number of allocations, and the total
  number of bytes its execution caused to be allocated, before returning the value of the expression.

  See also @timev, @timed, @elapsed, and @allocated.

  julia> @time rand(10^6);
    0.001525 seconds (7 allocations: 7.630 MiB)

  julia> @time begin
             sleep(0.3)
             1+1
         end
    0.301395 seconds (8 allocations: 336 bytes)
  2
```

```
search: IO IOStream IOBuffer IOContext fdio Union union union! UnionAll options Rational RadioMenu rationalize

  No documentation found.

  Summary
  =========

  abstract type IO <: Any

  Subtypes
  ==========

  Base.AbstractPipe
  Base.DevNullStream
  Base.Filesystem.AbstractFile
  Base.GenericIOBuffer
  Base.LibuvStream
  Base.SecretBuffer
  Base64.Base64DecodePipe
  Base64.Base64EncodePipe
  Core.CoreSTDERR
  Core.CoreSTDOUT
  IOStream
  Mmap.Anonymous
```

```
Welcome to Julia!

               _
   _       _ _(_)_     |  Documentation: https://docs.julialang.org
  (_)     | (_) (_)    |
    _ _   _| |_  __ _   |  Type "?" for help, "]?" for Pkg help.
   | | | | | | |/ _` |  |
   | | |_| | | | (_| |  |  Version 1.0.0 (2018-08-08)
  _/ |\__'_|_|_|\__'_|  |  Official https://julialang.org/ release
 |__/                   |

julia>
```


```
julia> fun(x) = 2 + 3x * (3 / 2)
fun (generic function with 1 method)
```

```
julia> fun(x) = 2 + 3x * (3 / 2)
fun (generic function with 1 method)
```

Chapter 2: Creating Our First Julia App

Row	Package	Dataset	Title	Rows	Columns
1	COUNT	affairs	affairs	601	18
2	COUNT	azdrg112	azdrg112	1798	4
3	COUNT	azpro	azpro	3589	6
4	COUNT	badhealth	badhealth	1127	3
5	COUNT	fasttrakg	fasttrakg	15	9
6	COUNT	lbw	lbw	189	10
7	COUNT	lbwgrp	lbwgrp	6	7
8	COUNT	loomis	loomis	410	11
9	COUNT	mdvis	mdvis	2227	13
10	COUNT	medpar	medpar	1495	10
11	COUNT	rwm	rwm	27326	4
12	COUNT	rwm5yr	rwm5yr	19609	17
13	COUNT	ships	ships	40	7
14	COUNT	titanic	titanic	1316	4
15	COUNT	titanicgrp	titanicgrp	12	5
16	Ecdat	Accident	Ship Accidents	40	5
17	Ecdat	Airline	Cost for U.S. Airlines	90	6
18	Ecdat	Airq	Air Quality for Californian Metropolitan Areas	30	6
19	Ecdat	Benefits	Unemployement of Blue Collar Workers	4877	18
20	Ecdat	Bids	Bids Received By U.S. Firms	126	12

150×5 DataFrame

Row	SepalLength	SepalWidth	PetalLength	PetalWidth	Species
1	5.1	3.5	1.4	0.2	setosa
2	4.9	3.0	1.4	0.2	setosa
3	4.7	3.2	1.3	0.2	setosa
4	4.6	3.1	1.5	0.2	setosa
5	5.0	3.6	1.4	0.2	setosa
6	5.4	3.9	1.7	0.4	setosa
7	4.6	3.4	1.4	0.3	setosa
8	5.0	3.4	1.5	0.2	setosa
9	4.4	2.9	1.4	0.2	setosa
10	4.9	3.1	1.5	0.1	setosa

6×5 DataFrame

Row	SepalLength	SepalWidth	PetalLength	PetalWidth	Species
1	5.1	3.5	1.4	0.2	setosa
2	4.9	3.0	1.4	0.2	setosa
3	4.7	3.2	1.3	0.2	setosa
4	4.6	3.1	1.5	0.2	setosa
5	5.0	3.6	1.4	0.2	setosa
6	5.4	3.9	1.7	0.4	setosa

10×5 DataFrame

Row	SepalLength	SepalWidth	PetalLength	PetalWidth	Species
1	6.7	3.1	5.6	2.4	virginica
2	6.9	3.1	5.1	2.3	virginica
3	5.8	2.7	5.1	1.9	virginica
4	6.8	3.2	5.9	2.3	virginica
5	6.7	3.3	5.7	2.5	virginica
6	6.7	3.0	5.2	2.3	virginica
7	6.3	2.5	5.0	1.9	virginica
8	6.5	3.0	5.2	2.0	virginica
9	6.2	3.4	5.4	2.3	virginica
10	5.9	3.0	5.1	1.8	virginica

3×2 DataFrame

Row	Species	x1
1	setosa	50
2	versicolor	50
3	virginica	50

5×8 DataFrame

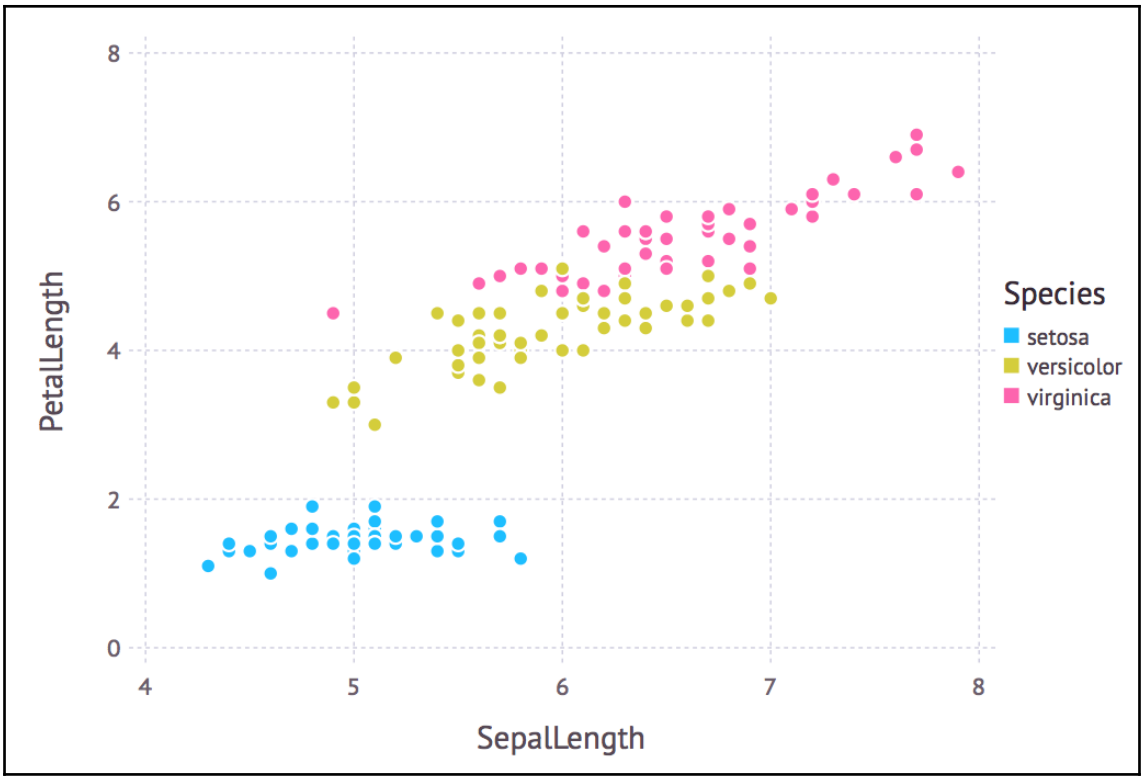
Row	variable	mean	min	median	max	nunique	nmissing	eltype
1	SepalLength	5.84333	4.3	5.8	7.9			Float64
2	SepalWidth	3.05733	2.0	3.0	4.4			Float64
3	PetalLength	3.758	1.0	4.35	6.9			Float64
4	PetalWidth	1.19933	0.1	1.3	2.5			Float64
5	Species		setosa		virginica	3		CategoricalString{UInt8}

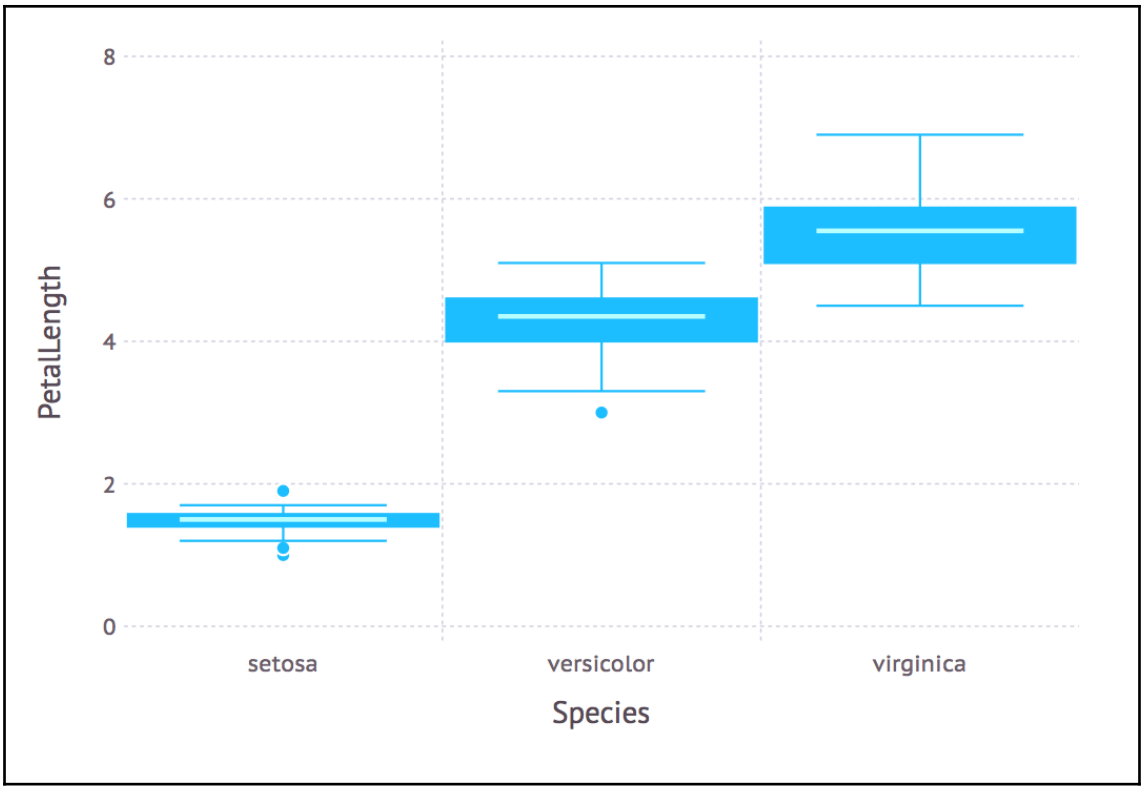
5×5 DataFrame

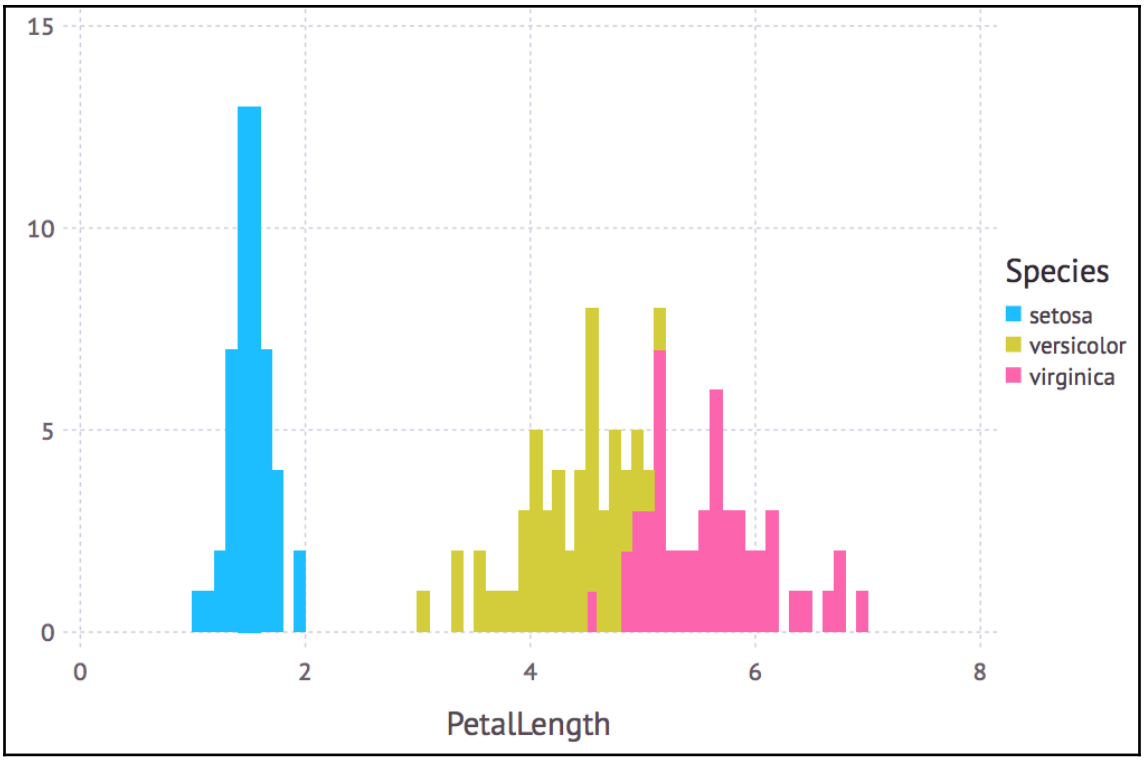
Row	variable	q25	q75	first	last
1	SepalLength	5.1	6.4	5.1	5.9
2	SepalWidth	2.8	3.3	3.5	3.0
3	PetalLength	1.6	5.1	1.4	5.1
4	PetalWidth	0.3	1.8	0.2	1.8
5	Species			setosa	virginica

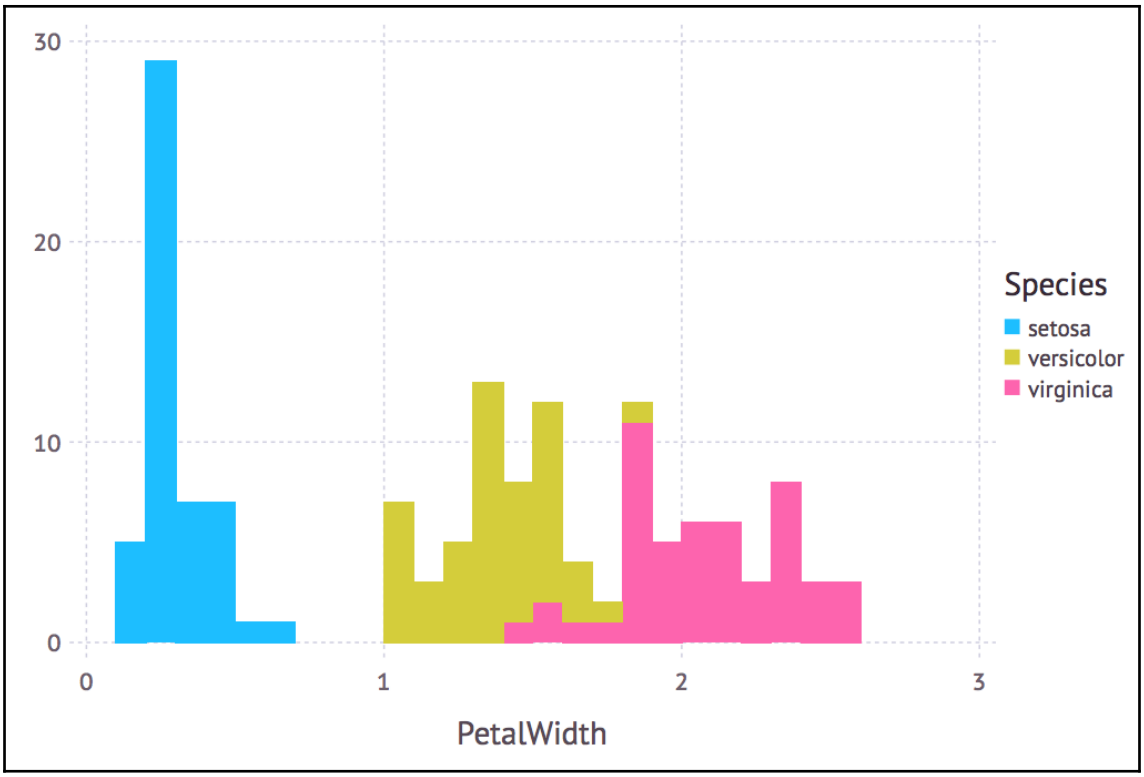
5×13 DataFrame

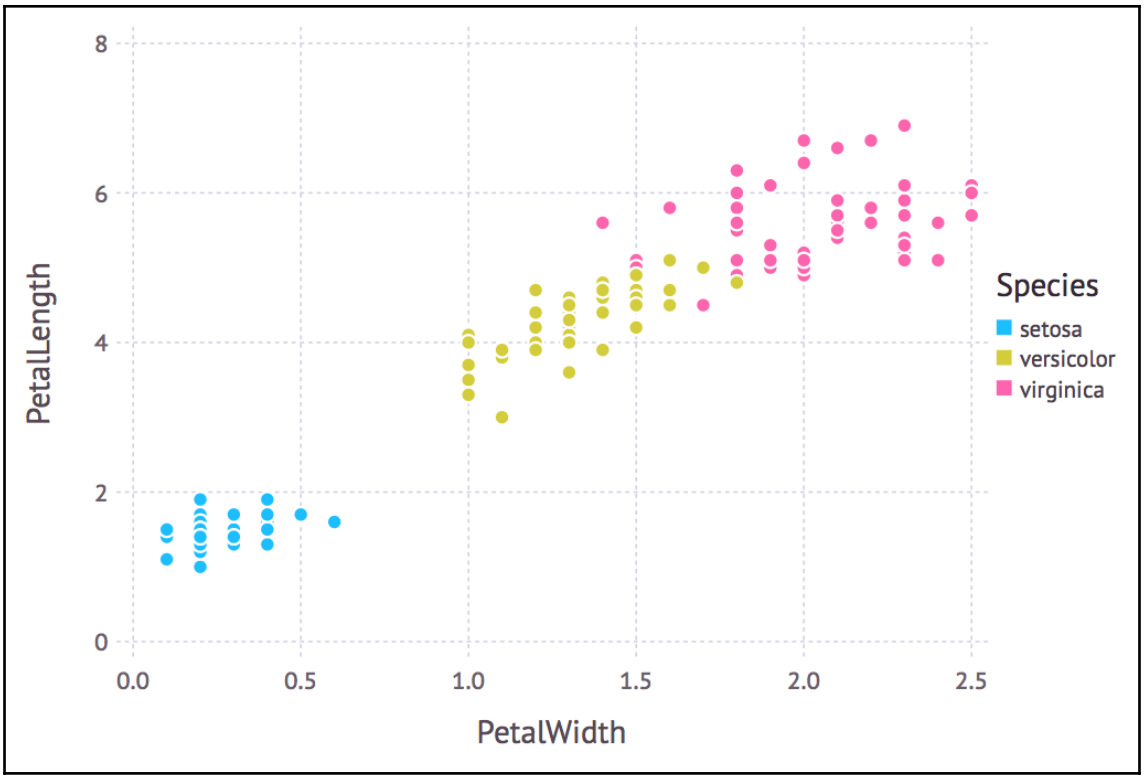
Row	variable	mean	std	min	q25	median	q75	max	nunique	nmissing	first	last	eltype
1	SepalLength	5.84333	0.828066	4.3	5.1	5.8	6.4	7.9			5.1	5.9	Float64
2	SepalWidth	3.05733	0.435866	2.0	2.8	3.0	3.3	4.4			3.5	3.0	Float64
3	PetalLength	3.758	1.7653	1.0	1.6	4.35	5.1	6.9			1.4	5.1	Float64
4	PetalWidth	1.19933	0.762238	0.1	0.3	1.3	1.8	2.5			0.2	1.8	Float64
5	Species			setosa				virginica	3		setosa	virginica	CategoricalString{UInt8}


8
6
4
2
0
PetalLength
4
5
6
7
8
SepalLength
Species
setosa
versicolor
virginica


8
6
4
2
0
PetalLength
setosa
versicolor
virginica
Species


15
10
5
0
0
2
4
6
8
PetalLength
Species
setosa
versicolor
virginica


30
20
10
0
0
1
2
3
PetalWidth
Species
setosa
versicolor
virginica


8
6
4
2
0
PetalLength
0.0
0.5
1.0
1.5
2.0
2.5
PetalWidth
Species
setosa
versicolor
virginica

Chapter 3: Setting Up the Wiki Game

Language features

According to the official website, the main features of the language are:

- Multiple dispatch
- Dynamic type
- Good performance

External links [edit]

- Official website
- The Julia manual
- Julia Package Listing – a searchable listing of all (currently over 1500 with combined over 30,000 GitHub stars) *registered* packages

Language features [edit]

According to the official website, the main features of the language are:

- Multiple dispatch: providing ability to define function behavior across many combinations of argument types
- Dynamic type system: types for documentation, optimization, and dispatch
- Good performance, approaching that of statically-typed languages like C

```
julia> HTTP.get("https://en.wikipedia.org/wiki/Julia_(programming_language)")
HTTP.Messages.Response:
"""
HTTP/1.1 200 OK
Date: Mon, 17 Sep 2018 10:35:38 GMT
Content-Type: text/html; charset=UTF-8
Content-Length: 193324
Connection: keep-alive
Server: mw2174.codfw.wmnet
Vary: Accept-Encoding,Cookie,Authorization
X-Content-Type-Options: nosniff
P3P: CP="This is not a P3P policy! See https://en.wikipedia.org/wiki/Special:CentralAutoLogin/P3P for more info."
X-Powered-By: HHVM/3.18.6-dev
Content-language: en
Last-Modified: Sun, 16 Sep 2018 06:23:32 GMT
Backend-Timing: D=94531 t=1537079074050651
X-Varnish: 343909603 326005351, 885580661 879616280, 1013404048 653558799
Via: 1.1 varnish (Varnish/5.1), 1.1 varnish (Varnish/5.1), 1.1 varnish (Varnish/5.1)
Age: 18448
X-Cache: cp2016 hit/5, cp3030 hit/2, cp3042 hit/26
X-Cache-Status: hit-front
Strict-Transport-Security: max-age=106384710; includeSubDomains; preload
Set-Cookie: WMF-Last-Access=17-Sep-2018;Path=/;HttpOnly;secure;Expires=Fri, 19 Oct 2018 00:00:00 GMT
Set-Cookie: WMF-Last-Access-Global=17-Sep-2018;Path=/;Domain=.wikipedia.org;HttpOnly;secure;Expires=Fri, 19 Oct 2018 0
0:00:00 GMT
X-Analytics: ns=0;page_id=38455554;https=1;nocookies=1
X-Client-IP: 83.51.206.212
Cache-Control: private, s-maxage=0, max-age=0, must-revalidate
Set-Cookie: GeoIP=ES:CT:Sitges:41.24:1.81:v4; Path=/; secure; Domain=.wikipedia.org
Accept-Ranges: bytes

<!DOCTYPE html>
<html class="client-nojs" lang="en" dir="ltr">
<head>
<meta charset="UTF-8"/>
<title>Julia (programming language) - Wikipedia</title>
<script>document.documentElement.className = document.documentElement.className.replace( /(^|\s)client-nojs(\s|$)/, "$
1client-js$2" );</script>
<script>(window.RLQ=window.RLQ||[]).push(function(){mw.config.set({"wgCanonicalNamespace":"","wgCanonicalSpecialPageNa
me":false,"wgNamespaceNumber":0,"wgPageName":"Julia_(programming_language)","wgTitle":"Julia (programming language)","
wgCurRevisionId":859773913,"wgRevisionId":859773913,"wgArticleId":38455554,"wgIsArticle":true,"wgIsRedirect":false,"wg
Action":"view","wgUserName":null,"wgUserGroups":["*"],"wgCategories":["CS1 maint: Multiple names: authors list","Use d
my dates from October 2015","Official website different in Wikidata and Wikipedia","2012 software","Array programming
languages","Computational notebook","Data mining and machine learning software","Data-centric programming languages"
⋮
193324-byte body
"""
```

```
25-element Array{Pair{SubString{String},SubString{String}},1}:
                    "Date" ⇒ "Mon, 17 Sep 2018 11:02:39 GMT"
            "Content-Type" ⇒ "text/html; charset=UTF-8"
          "Content-Length" ⇒ "193324"
              "Connection" ⇒ "keep-alive"
                  "Server" ⇒ "mw2174.codfw.wmnet"
                    "Vary" ⇒ "Accept-Encoding,Cookie,Authorization"
  "X-Content-Type-Options" ⇒ "nosniff"
                  "P3P" ⇒ "CP=\"This is not a P3P policy! See https://en.wikipedia.org/wiki/Special:Central/
           "X-Powered-By" ⇒ "HHVM/3.18.6-dev"
        "Content-language" ⇒ "en"
         "Last-Modified" ⇒ "Sun, 16 Sep 2018 06:23:32 GMT"
         "Backend-Timing" ⇒ "D=94531 t=1537079074050651"
             "X-Varnish" ⇒ "343909603 326005351, 885580661 879616280, 2790139 653558799"
                   "Via" ⇒ "1.1 varnish (Varnish/5.1), 1.1 varnish (Varnish/5.1), 1.1 varnish (Varnish/5.1)"
                   "Age" ⇒ "20069"
               "X-Cache" ⇒ "cp2016 hit/5, cp3030 hit/2, cp3042 hit/29"
          "X-Cache-Status" ⇒ "hit-front"
 "Strict-Transport-Security" ⇒ "max-age=106384710; includeSubDomains; preload"
            "Set-Cache" ⇒ "WMF-Last-Access=17-Sep-2018;Path=/;HttpOnly;secure;Expires=Fri, 19 Oct 2018 00:0(
            "Set-Cache" ⇒ "WMF-Last-Access-Global=17-Sep-2018;Path=/;Domain=.wikipedia.org;HttpOnly;secure;I
          "X-Analytics" ⇒ "ns=0;page_id=38455554;https=1;nocookies=1"
          "X-Client-IP" ⇒ "83.51.206.212"
        "Cache-Control" ⇒ "private, s-maxage=0, max-age=0, must-revalidate"
            "Set-Cache" ⇒ "GeoIP=ES:CT:Sitges:41.24:1.81:v4; Path=/; secure; Domain=.wikipedia.org"
         "Accept-Ranges" ⇒ "bytes"
```

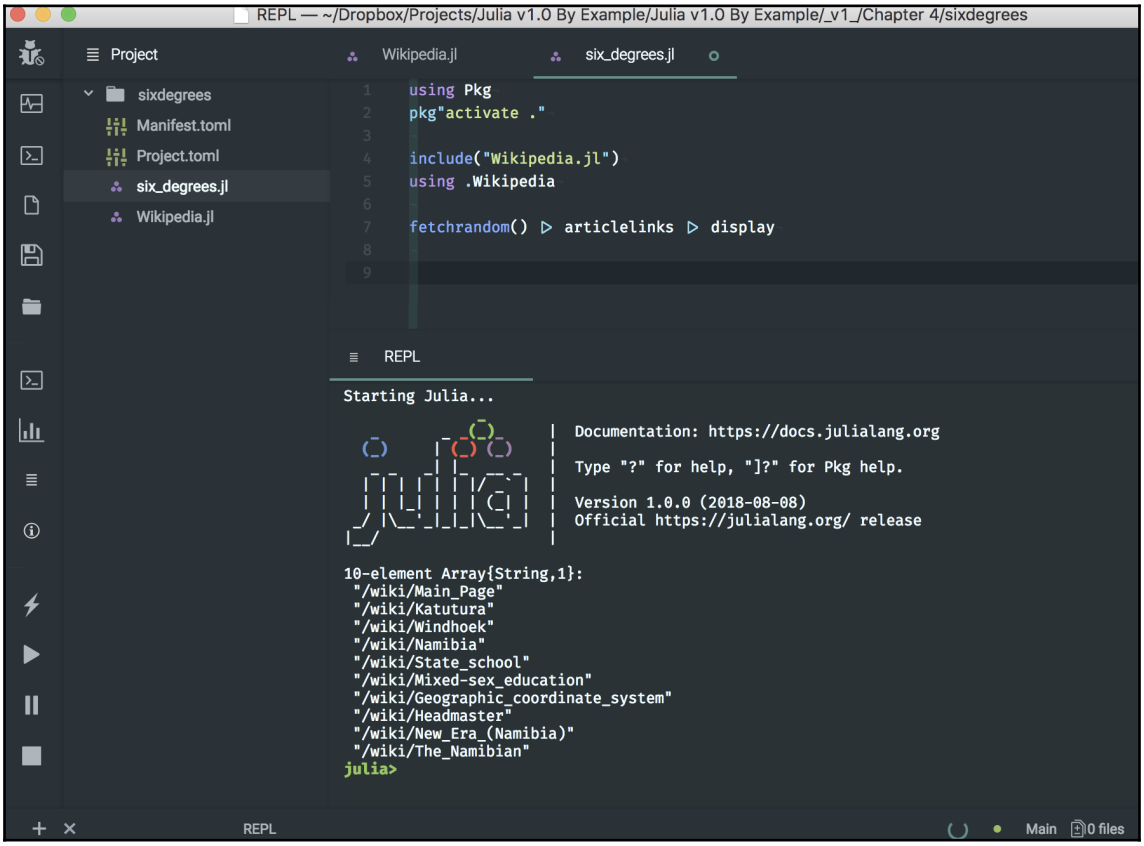

```
"<!DOCTYPE html>\n<html class=\"client-nojs\" lang=\"en\" dir=\"ltr\">\n<head>\n<meta charset=\"UTF-8\"/>\n<
title>Julia (programming language) - Wikipedia</title>\n<script>document.documentElement.className = documen
t.documentElement.className.replace( /(^|\\s)client-nojs(\\s|\$)/, \"\$1client-js\$2\" );</script>\n<script>
(window.RLQ=window.RLQ||[]).push(function(){mw.config.set({\"wgCanonicalNamespace\":\"\",\"wgCanonicalSpecia
lPageName\":false,\"wgNamespaceNumber\":0,\"wgPageName\":\"Julia_(programming_language)\",\"wgTitle\":\"J"
```

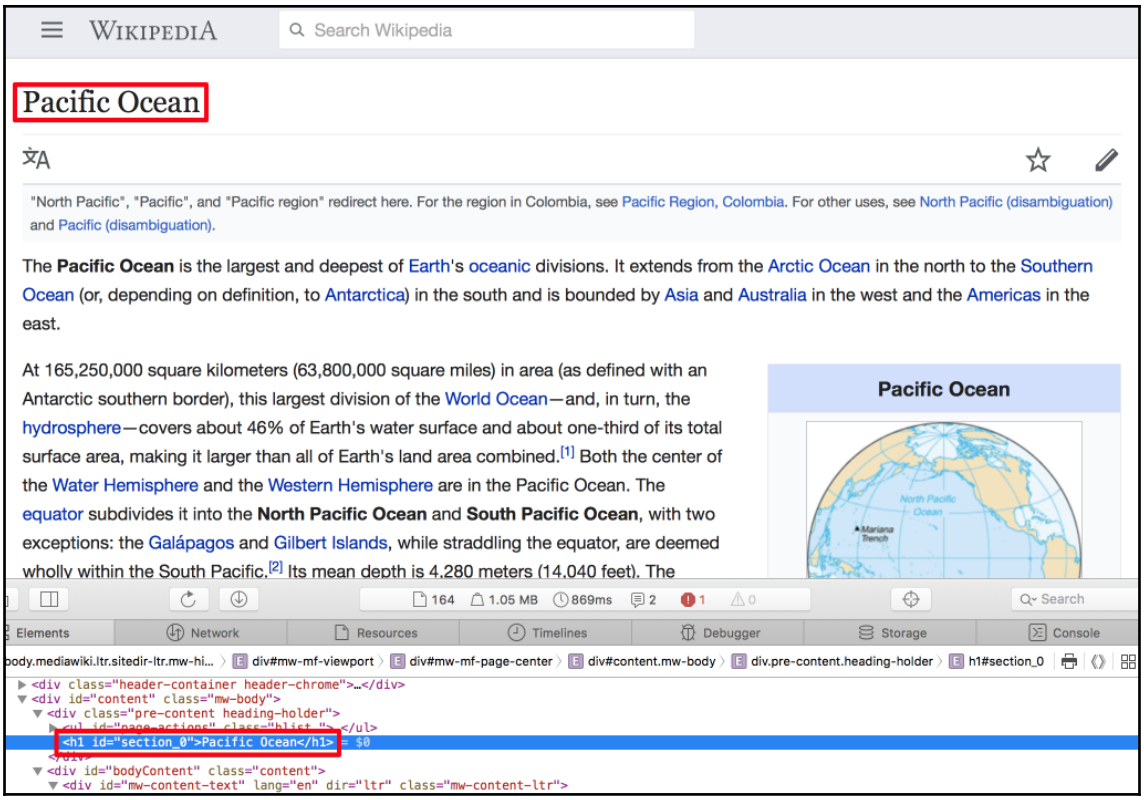

```
1 <!DOCTYPE html>
2 <html class="client-nojs" lang="en" dir="ltr">
3 <head>
4 <meta charset="UTF-8"/>
5 <title>Julia (programming language) - Wikipedia</title>
6 <script>document.documentElement.className =
  document.documentElement.className.replace( /(^|\s)client-nojs(\s|$)/,
  "$1client-js$2" );</script>
7 <script>(window.RLQ=window.RLQ||[]).push(function()
  {mw.config.set({"wgCanonicalNamespace":"","wgCanonicalSpecialPageName":false
  ,"wgNamespaceNumber":0,"wgPageName":"Julia_(programming_language)","wgTitle"
  :"Julia (programming
```

```
1 <!DOCTYPE html>
2 <html class="client-nojs" lang="en" dir="ltr">
```

```
help?> thermal_confort
search: thermal_confort

      thermal_confort(temperature, humidity; <keyword arguments>)


  Compute the thermal comfort index based on temperature and humidity. It can optionally take int
o account the age of the patient. Works for both Celsius and
  Fahrenheit.

  Examples:
  ===========

  julia> thermal_confort(32, 78)
  12


  Arguments
  ===========

    •    temperature: the current air temperature

    •    humidity: the current air humidity

    •    scale: whether :celsius or :fahrenheit, defaults to :celsius

    •    age: the age of the patient
```

Chapter 4: Building the Wiki Game Web Crawler




WIKIPEDIA
Search Wikipedia
Pacific Ocean
"North Pacific", "Pacific", and "Pacific region" redirect here. For the region in Colombia, see Pacific Region, Colombia. For other uses, see North Pacific (disambiguation) and Pacific (disambiguation).
The Pacific Ocean is the largest and deepest of Earth's oceanic divisions. It extends from the Arctic Ocean in the north to the Southern Ocean (or, depending on definition, to Antarctica) in the south and is bounded by Asia and Australia in the west and the Americas in the east.
At 165,250,000 square kilometers (63,800,000 square miles) in area (as defined with an Antarctic southern border), this largest division of the World Ocean—and, in turn, the hydrosphere—covers about 46% of Earth's water surface and about one-third of its total surface area, making it larger than all of Earth's land area combined.[1] Both the center of the Water Hemisphere and the Western Hemisphere are in the Pacific Ocean. The equator subdivides it into the North Pacific Ocean and South Pacific Ocean, with two exceptions: the Galápagos and Gilbert Islands, while straddling the equator, are deemed wholly within the South Pacific.[2] Its mean depth is 4,280 meters (14,040 feet). The
Pacific Ocean
North Pacific Ocean
Mariana Trench
Elements
Network
Resources
Timelines
Debugger
Storage
Console
<h1 id="section_0">Pacific Ocean</h1>

…

Australia

From Wikipedia, the free encyclopedia

Coordinates: 25°S 133°E

This article is about the country. For the continent, see Australia (continent). For other uses, see Australia (disambiguation).

Australia (/əˈstreɪlɪə/ (listen), /ɒ-/, /-ɪjə/),[10][11] officially the **Commonwealth of Australia**,[12] is a sovereign country comprising the mainland of the Australian continent, the island of Tasmania and numerous smaller islands. It is the largest country in Oceania and the world's sixth-largest country by total area. The neighbouring countries are Papua New Guinea, Indonesia and East Timor to the north; the Solomon Islands and Vanuatu to the north-east; and New Zealand to the south-east. Australia's capital is Canberra, and its largest urban area is Sydney.

For about 50,000 years[13] before the first British settlement in the late 18th century,[14][15] Australia was inhabited by indigenous Australians,[16] who spoke languages classifiable into roughly 250 groups.[17][18] After the European discovery of the continent by Dutch explorers in 1606, Australia's eastern half was claimed by Great Britain in 1770 and initially settled through penal transportation to the colony of New South Wales from 26 January 1788. The population grew steadily in subsequent decades, and by the 1850s most of the continent had been explored and an additional five self-governing crown colonies established. On 1 January 1901, the six colonies federated, forming the Commonwealth of Australia. Australia has since maintained a stable liberal democratic political system that functions as a federal parliamentary constitutional monarchy comprising six states and several territories.

Australia has the world's 13th-largest economy and ninth-highest per capita income (IMF).[19] With the second-highest human development index globally, the country ranks highly in quality of life, health, education, economic freedom, and civil liberties and political rights.[20] Australia is a member of the United Nations, G20, Commonwealth of Nations, ANZUS, Organisation for Economic Co-operation and Development (OECD), World Trade Organization, Asia-Pacific Economic Cooperation, and the Pacific Islands Forum. The population of 25 million[5] is highly urbanised and heavily concentrated on the eastern seaboard.[21] Australia has the world's 9th largest immigrant population, with immigrants accounting for 26% of

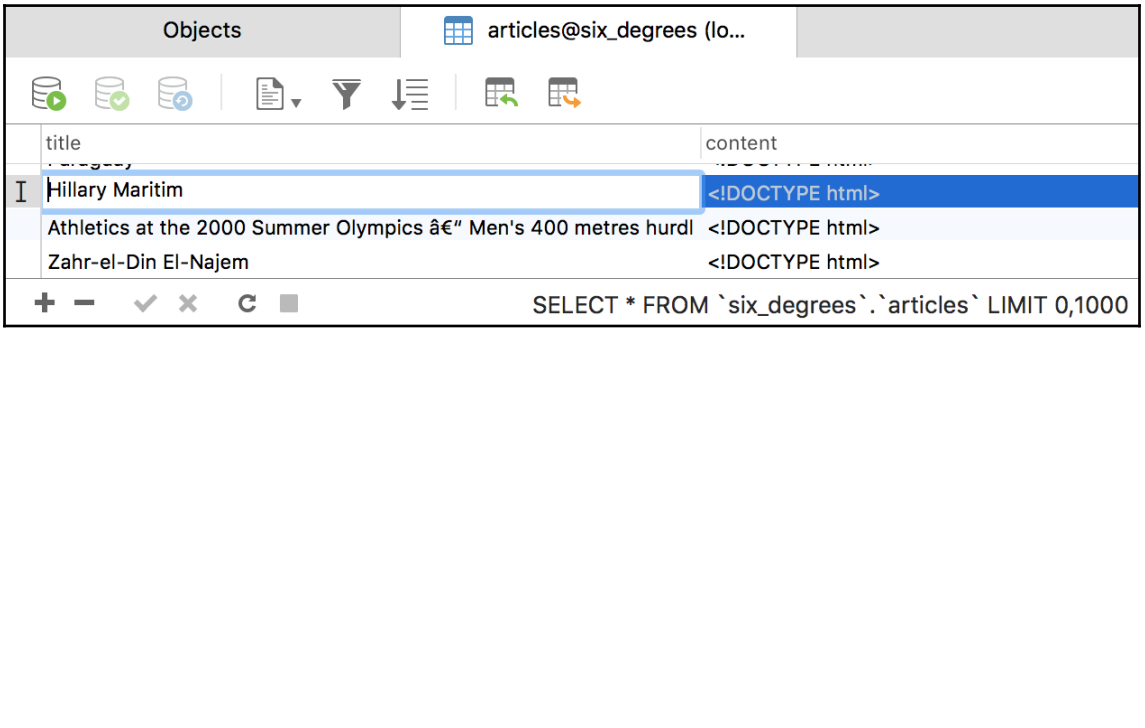
Commonwealth of Australia

Flag

Coat of arms

Anthem: "Advance Australia Fair"[N 1]

0:00 CC MENU



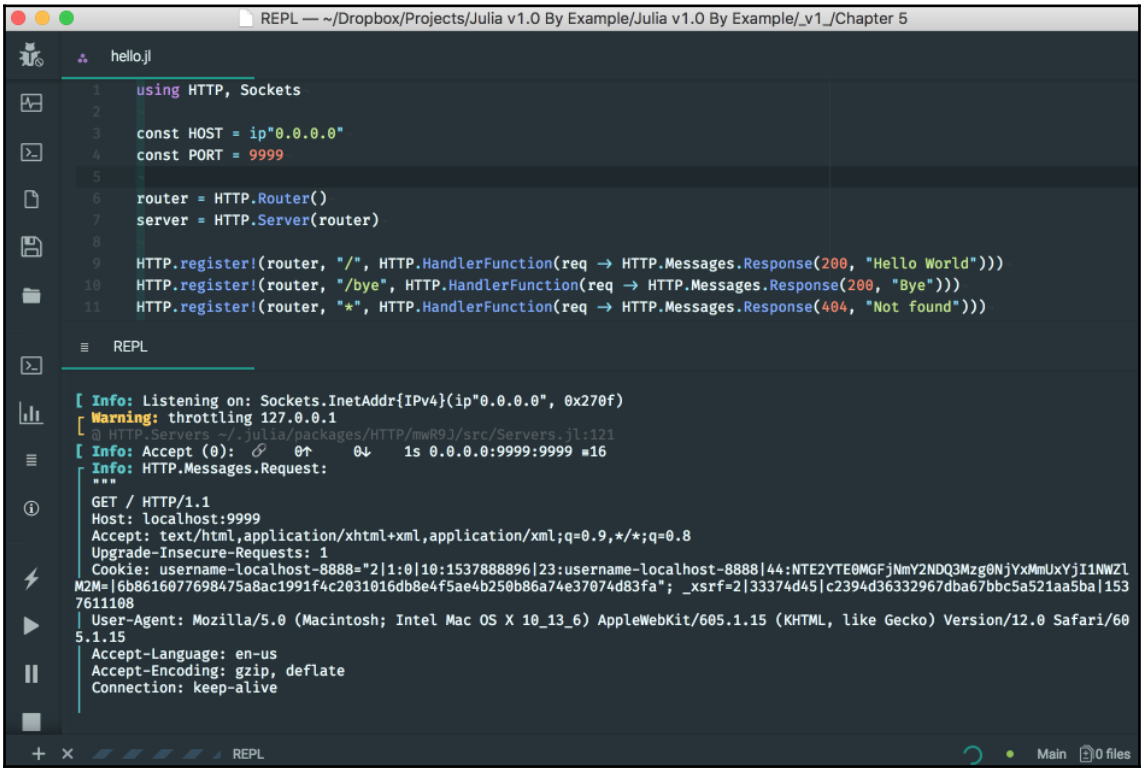
Objects

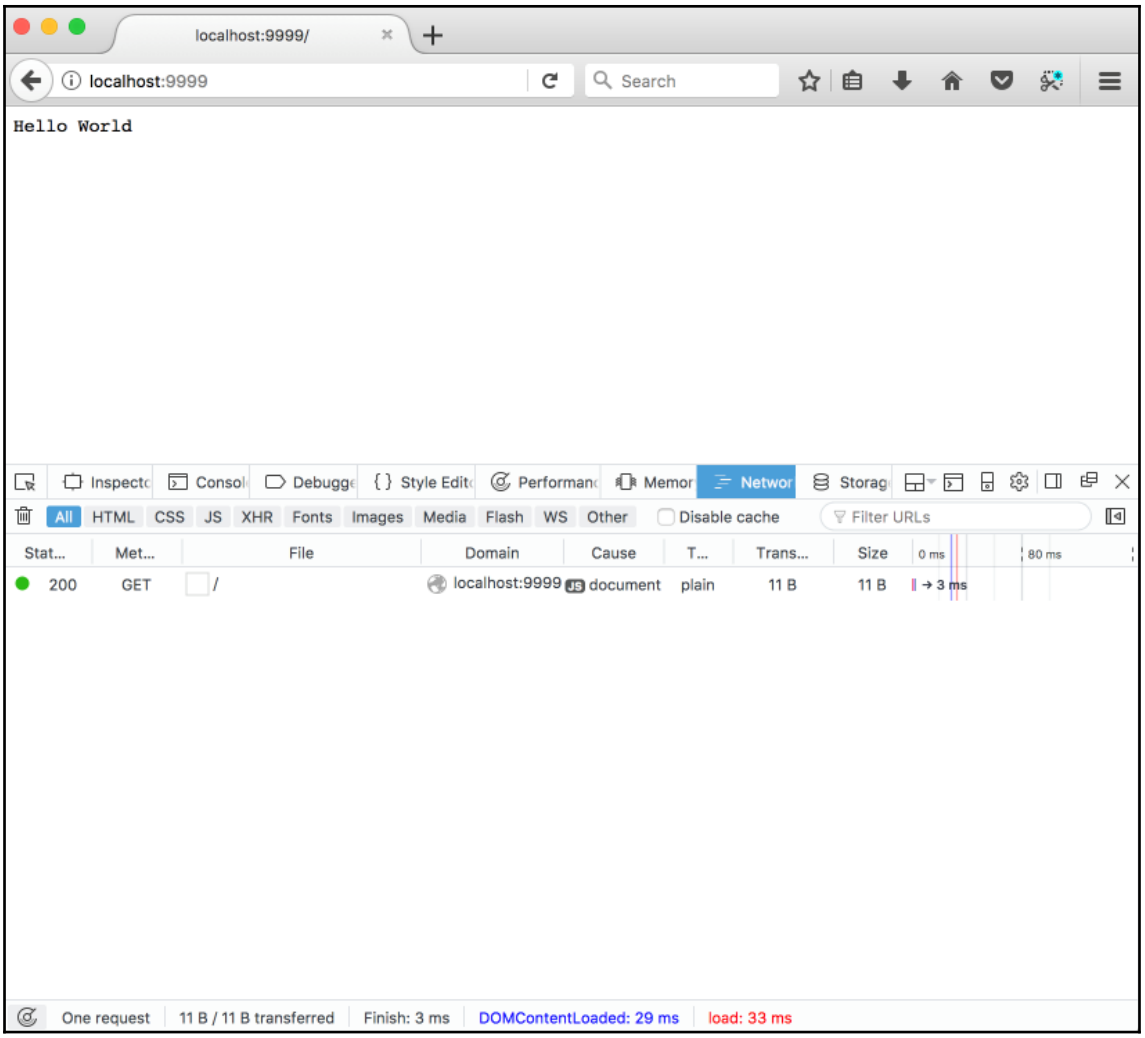
articles@six_degrees (lo...

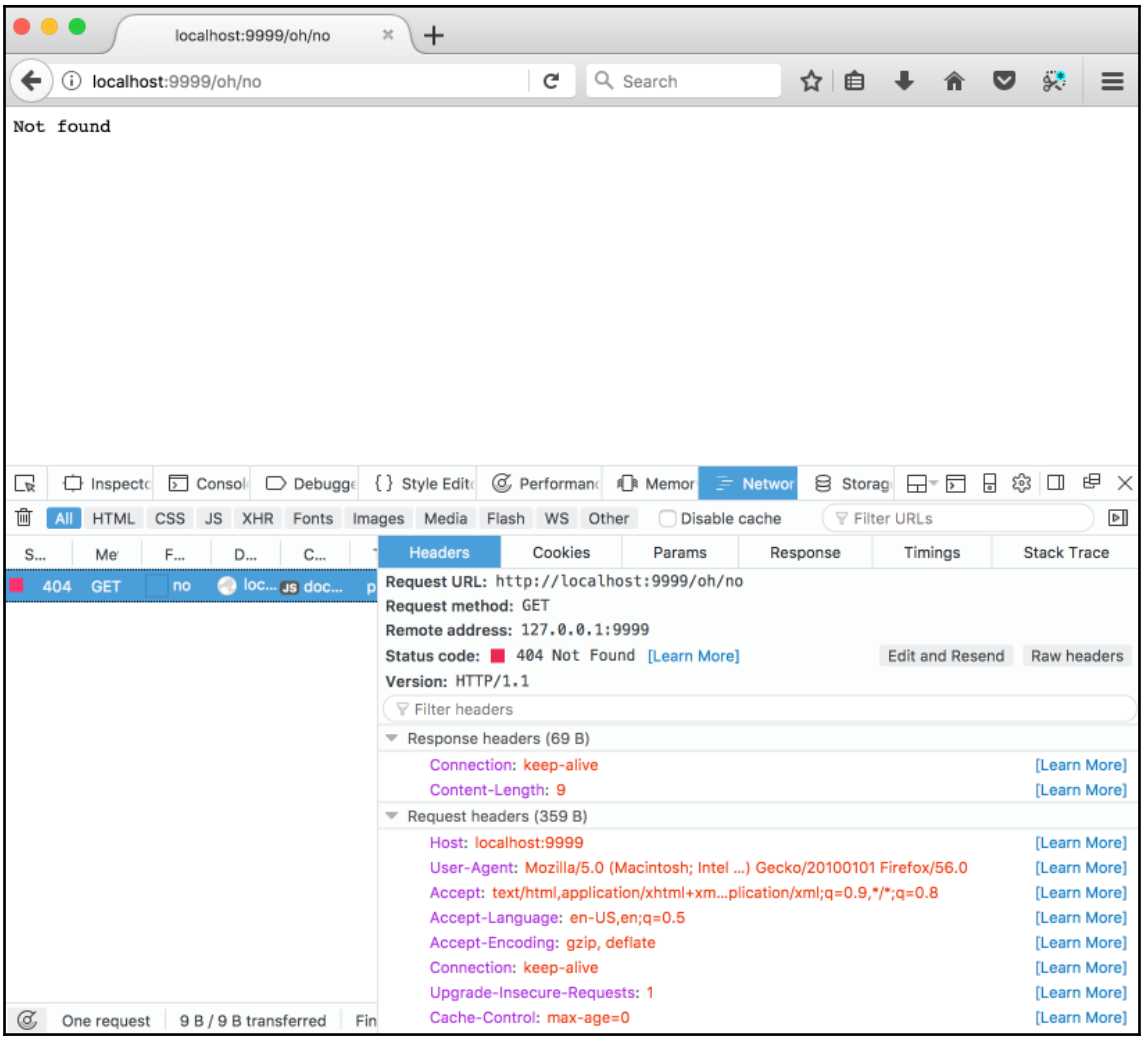
title	content
Hillary Maritim	<!DOCTYPE html>
Athletics at the 2000 Summer Olympics â€" Men's 400 metres hurdl	<!DOCTYPE html>
Zahr-el-Din El-Najem	<!DOCTYPE html>

SELECT * FROM `six_degrees`.`articles` LIMIT 0,1000

Chapter 5: Adding a Web UI for the Wiki Game




localhost:9999/
localhost:9999
Search
Hello World
Inspect
Consol
Debugg
Style Edit
Performan
Memor
Networ
Storag
All
HTML
CSS
JS
XHR
Fonts
Images
Media
Flash
WS
Other
Disable cache
Filter URLs
Stat...
Met...
File
Domain
Cause
T...
Trans...
Size
0 ms
80 ms
200
GET
/
localhost:9999
document
plain
11 B
11 B
→ 3 ms
One request
11 B / 11 B transferred
Finish: 3 ms
DOMContentLoaded: 29 ms
load: 33 ms


localhost:9999/oh/no
localhost:9999/oh/no
Search
Not found
Inspect
Consol
Debugg
Style Edit
Performan
Memor
Networ
Storag
All
HTML
CSS
JS
XHR
Fonts
Images
Media
Flash
WS
Other
Disable cache
Filter URLs
S...
Me
F...
D...
C...
Headers
Cookies
Params
Response
Timings
Stack Trace
404 GET no loc... doc...
Request URL: http://localhost:9999/oh/no
Request method: GET
Remote address: 127.0.0.1:9999
Status code: 404 Not Found [Learn More]
Edit and Resend
Raw headers
Version: HTTP/1.1
Filter headers
Response headers (69 B)
Connection: keep-alive [Learn More]
Content-Length: 9 [Learn More]
Request headers (359 B)
Host: localhost:9999 [Learn More]
User-Agent: Mozilla/5.0 (Macintosh; Intel ...) Gecko/20100101 Firefox/56.0 [Learn More]
Accept: text/html,application/xhtml+xm...plication/xml;q=0.9,*/*;q=0.8 [Learn More]
Accept-Language: en-US,en;q=0.5 [Learn More]
Accept-Encoding: gzip, deflate [Learn More]
Connection: keep-alive [Learn More]
Upgrade-Insecure-Requests: 1 [Learn More]
Cache-Control: max-age=0 [Learn More]
One request
9 B / 9 B transferred

Six degrees of Wikipedia

The goal of the game is to find the shortest path between two random Wikipedia articles. Depending on the difficulty level you choose, the Wiki pages will be further apart and less related.
If you can't find the solution, you can always go back up the articles chain, but you need to find the solution within the maximum number of steps, otherwise you lose.
If you get stuck, you can always check the solution, but you'll lose.
Good luck and enjoy!

New game

Easy (2 links away) | Medium (4 links away) | Hard (6 links away)

Saigon (Grey novel)

Open main menu

β

Search Wikipedia

Search

- Edit this page
-
-

Saigon (Grey novel)

This article **does not cite any sources**. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. *(January 2011)* *(Learn how and when to remove this template message)*

Saigon is a novel by Anthony Grey. *Saigon* follows the lives of three families, one American, one French, and the other Vietnamese, from the French colonial era in the early 1920s until the last helicopter left Saigon at the end of the Vietnam War.

Author	Anthony Grey
Subject	Vietnam
Genre	historical novel
Publisher	Weidenfeld & Nicolson, Little, Brown

Millwall F.C.–West Ham United F.C. rivalry

The **rivalry between Millwall and West Ham United** is one of the longest-standing and most bitter in English football. The two teams, then known as Millwall Athletic and Thames Ironworks, both originated in the East End of London, and were located under three miles apart. They first played each other in the 1899–1900 FA Cup. The match was historically known as the **Dockers derby**, as both sets of supporters were predominantly dockers at shipyards on either side of the River Thames. Consequently, each set of fans worked for rival firms who were competing for the same business; this intensified the tension between the teams. In 1910, Millwall moved south of the River Thames to New Cross and the teams were no longer East London neighbours. Both sides have relocated since, but remain just under four miles apart. Millwall moved to The Den in Bermondsey in 1993 and West Ham to the London Stadium in Stratford in 2016.

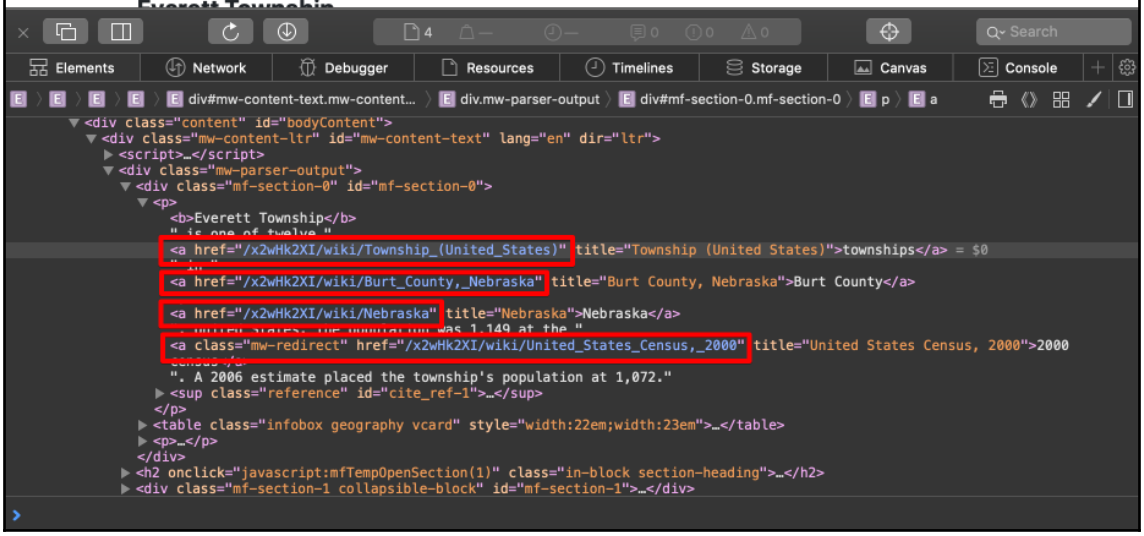
The last derby at Upton Park.

(4 February 2012)

Locale	London (East and South)
Teams	Millwall and West Ham United

Everett Township, Burt County, Nebraska

Everett Township is one of twelve townships in Burt County, Nebraska, United States. The population was 1,149 at the 2000 census. A 2006 estimate placed the township's population at 1,072.[1]



Go from *Battle of the Chernaya* to *Planet Simpson*

/wiki/Planet_Simpson

Progress: 2 out of maximum 2 links in 2 steps

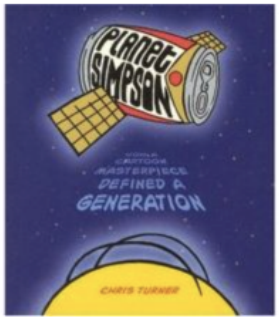
Solution? | New game

1. Battle of the Chernaya
2. Catchphrase
3. Planet Simpson

You Won!

Planet Simpson

Planet Simpson: How a Cartoon Masterpiece Documented an Era and Defined a Generation, also abbreviated to ***Planet Simpson: How a Cartoon Masterpiece Defined a Generation***, is a non-fiction book about *The Simpsons*, written by Chris Turner and originally published on October 12, 2004 by Random House.[1] The book is partly a memoir and an exploration of the impact *The Simpsons* has had on popular culture.



Cover of *Planet Simpson* (1st United States ed.)

Author	Chris Turner
Country	Canada
Language	English

Go from *Colle di Brianza* to *Pyramidal peak* */wiki/Pyramidal_peak*

Progress: 2 out of maximum 2 links in 10 steps

Solution? | New game

1. Colle di Brianza
2. Summit
3. Pyramidal peak

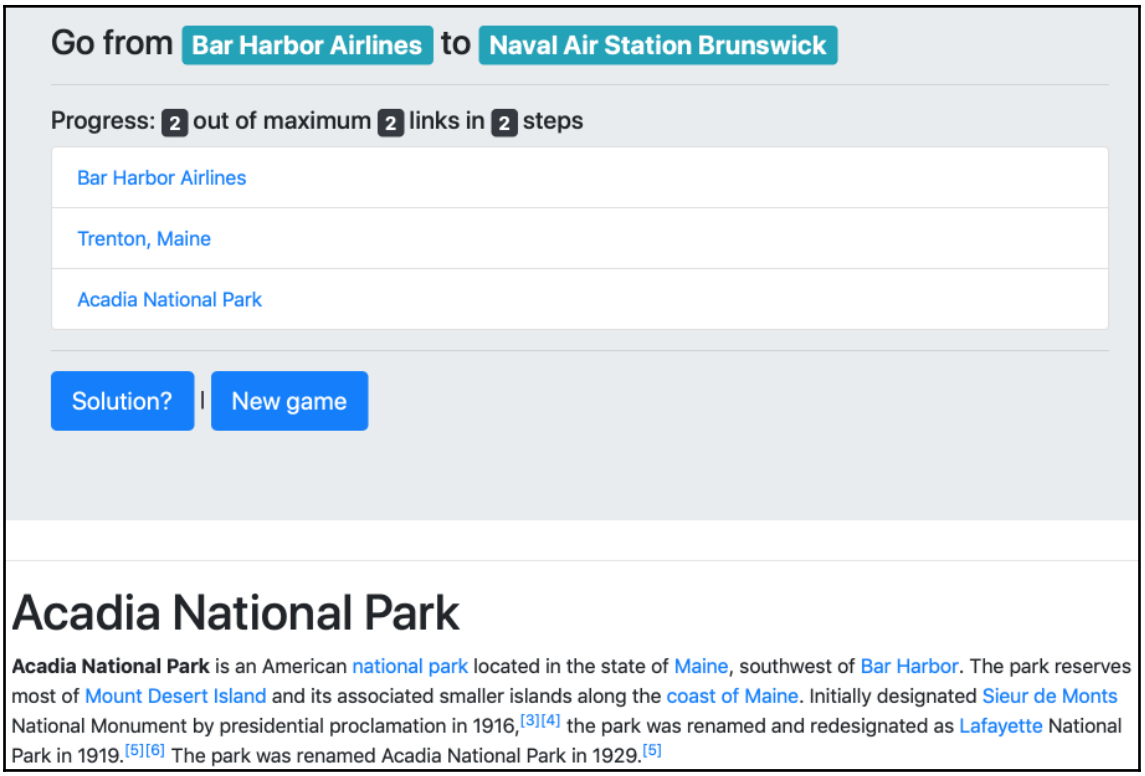
You Lost :(

Pyramidal peak

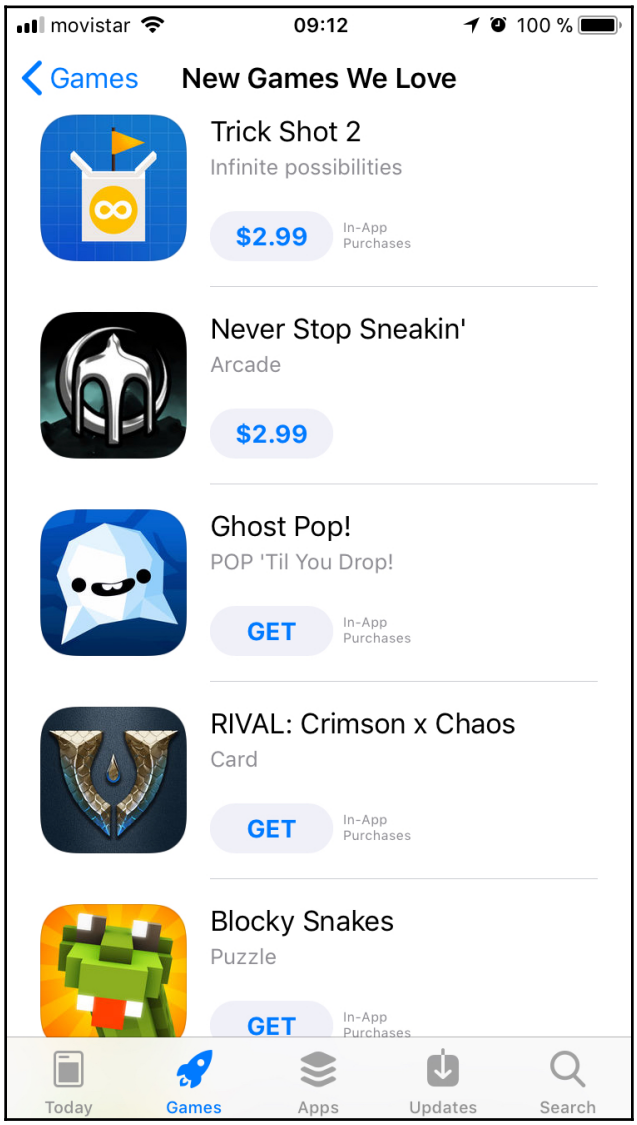
The Matterhorn, a classic example of a pyramidal peak.

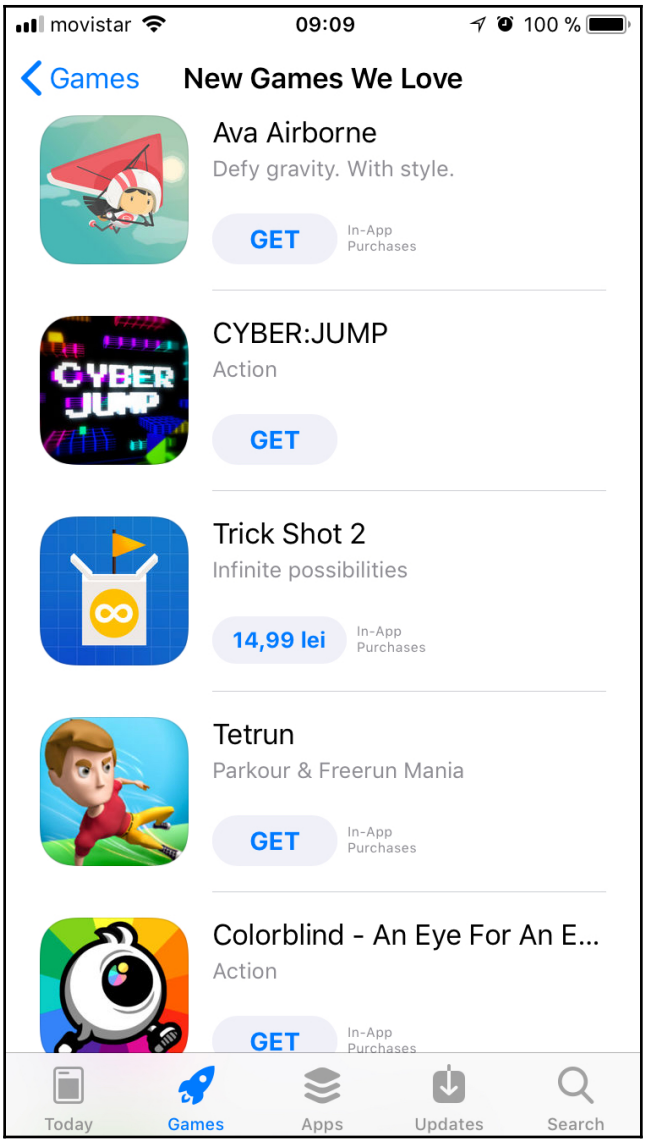
Coroa do Frade (center right), a pyramid-shaped peak at the Serra dos Órgãos National Park, in Rio de Janeiro state, Brazil.

A **pyramidal peak**, sometimes in its most extreme form called a **glacial horn**, is an angular, sharply pointed

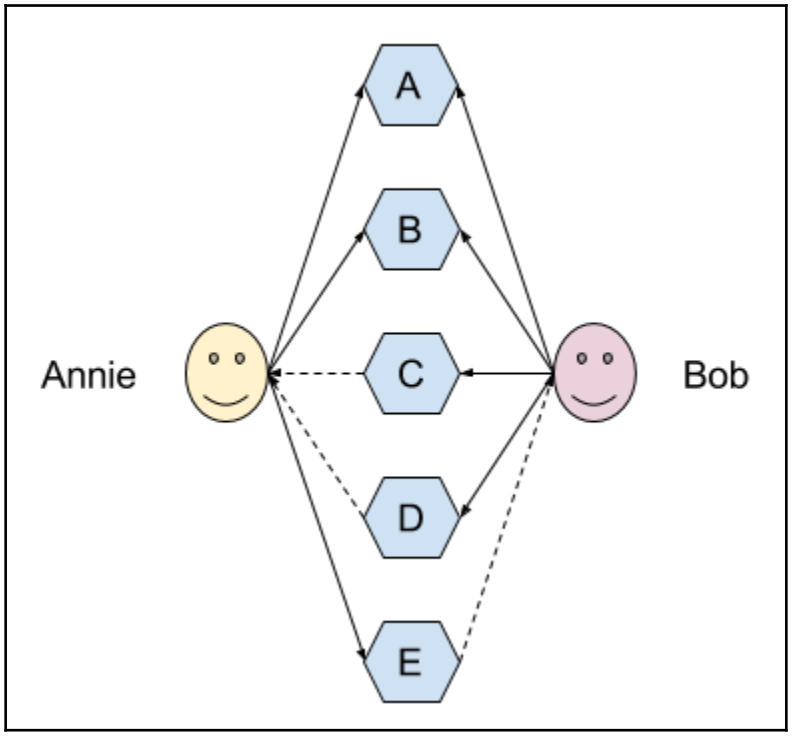

Go from Bar Harbor Airlines to Naval Air Station Brunswick
Progress: 2 out of maximum 2 links in 2 steps
Bar Harbor Airlines
Trenton, Maine
Acadia National Park
Solution?
New game
Acadia National Park
Acadia National Park is an American national park located in the state of Maine, southwest of Bar Harbor. The park reserves most of Mount Desert Island and its associated smaller islands along the coast of Maine. Initially designated Sieur de Monts National Monument by presidential proclamation in 1916,[3][4] the park was renamed and redesignated as Lafayette National Park in 1919.[5][6] The park was renamed Acadia National Park in 1929.[5]

Chapter 6: Implementing Recommender Systems with Julia




movistar
09:09
100 %
Games
New Games We Love
Ava Airborne
Defy gravity. With style.
GET
In-App Purchases
CYBER:JUMP
Action
GET
Trick Shot 2
Infinite possibilities
14,99 lei
In-App Purchases
Tetrun
Parkour & Freerun Mania
GET
In-App Purchases
Colorblind - An Eye For An E...
Action
GET
In-App Purchases
Today
Games
Apps
Updates
Search

	A	B	C	D	E	F	G	H	I
1	**Movie title**	**Action**	**Animation**	**Comedy**	**Drama**	**Kids**	**Mistery**	**Musical**	**SF**
2	Moonlight (2016)	0	0	0	1	0	0	0	0
3	Zootopia (2016)	1	1	1	0	0	0	0	0
4	Arrival (2016)	0	0	0	1	0	1	0	1
5	Hell or High Water (2016)	0	0	0	1	0	1	0	0
6	La La Land (2016)	0	0	1	1	0	0	1	0
7	The Jungle Book (2016)	1	0	0	0	1	0	0	0
8	Manchester by the Sea (2016)	0	0	0	1	0	0	0	0
9	Finding Dory (2016)	0	1	0	0	0	0	0	0
10	Captain America: Civil War (2016)	1	0	0	0	0	0	0	1
11	Moana (2016)	1	1	0	0	0	0	0	0



Movie title	Acton	Annie	Comey	Dean	Kit	Missie	Musk	Sam
Moonlight (2016)		3		10		9	2	
Zootopia (2016)	9	10	7		10		5	
Arrival (2016)	5		6	10		9		10
Hell or High Water (2016)	3		3	10		8		
La La Land (2016)	6		8	9			10	
The Jungle Book (2016)	8	7		2	9		6	
Manchester by the Sea (2016)			2	8				
Finding Dory (2016)	7	8	5	4	10			
Captain America: Civil War (2016)	10		5	6				9
Moana (2016)	8	9			10		7	

```
11×9 Array{Any,2}:
 "Movie title"                    "Acton"  "Annie"  …  "Dean"  "Kit"  "Missie"  "Musk"  "Sam"
 "Moonlight (2016)"               ""       3           10       ""     9          2       ""
 "Zootopia (2016)"                9        10             ""    10     ""         5       ""
 "Arrival (2016)"                 5        ""          10       ""     9          ""      10
 "Hell or High Water (2016)"      3        ""          10       ""     8          ""      ""
 "La La Land (2016)"              6        ""       …  9        ""     ""         10      ""
 "The Jungle Book (2016)"         8        7           2        9      ""         6       ""
 "Manchester by the Sea (2016)"   ""       ""          8        ""     ""         ""      ""
 "Finding Dory (2016)"            7        8           4        10     ""         ""      ""
 "Captain America: Civil War (2016)"  10    ""          6        ""     ""         ""      9
 "Moana (2016)"                   8        9        …  ""       10     ""         7       ""
```

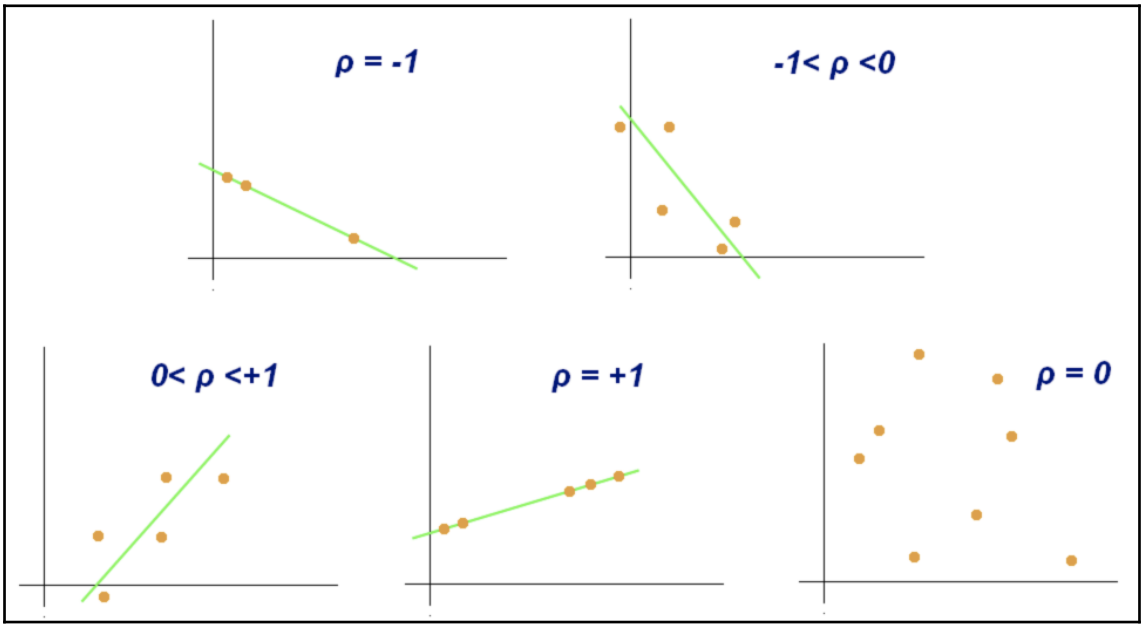
```
10×9 DataFrame
 Row  Movie title                        Acton    Annie    Comey    Dean     Kit      Missie   Musk     Sam
      Union{Missing, String}             Int64⍰   Int64⍰   Int64⍰   Int64⍰   Int64⍰   Int64⍰   Int64⍰   Int64⍰
 1    Moonlight (2016)                   missing  3        missing  10       missing  9        2        missing
 2    Zootopia (2016)                    9        10       7        missing  10       missing  5        missing
 3    Arrival (2016)                     5        missing  6        10       missing  9        missing  10
 4    Hell or High Water (2016)          3        missing  3        10       missing  8        missing  missing
 5    La La Land (2016)                  6        missing  8        9        missing  missing  10       missing
 6    The Jungle Book (2016)             8        7        missing  2        9        missing  6        missing
 7    Manchester by the Sea (2016)       missing  missing  2        8        missing  missing  missing  missing
 8    Finding Dory (2016)                7        8        5        4        10       missing  missing  missing
 9    Captain America: Civil War (2016)  10       missing  5        6        missing  missing  missing  9
 10   Moana (2016)                       8        9        missing  missing  10       missing  7        missing
```

9×8 DataFrame

Row	variable Symbol	mean Union…	min Any	median Union…	max Any	nunique Union…	nmissing Int64	eltype DataType
1	Movie title		Arrival (2016)		Zootopia (2016)	10	0	String
2	Acton	7.0	3	7.5	10		2	Int64
3	Annie	7.4	3	8.0	10		5	Int64
4	Comey	5.14286	2	5.0	8		3	Int64
5	Dean	7.375	2	8.5	10		2	Int64
6	Kit	9.75	9	10.0	10		6	Int64
7	Missie	8.66667	8	9.0	9		7	Int64
8	Musk	6.0	2	6.0	10		5	Int64
9	Sam	9.5	9	9.5	10		8	Int64

10×9 DataFrame

Row	Movie title Union{Missing, String}	Acton Int64⍰	Annie Int64⍰	Comey Int64⍰	Dean Int64⍰	Kit Int64⍰	Missie Int64⍰	Musk Int64⍰	Sam Int64⍰
1	Moonlight (2016)	0	3	0	10	0	9	2	0
2	Zootopia (2016)	9	10	7	0	10	0	5	0
3	Arrival (2016)	5	0	6	10	0	9	0	10
4	Hell or High Water (2016)	3	0	3	10	0	8	0	0
5	La La Land (2016)	6	0	8	9	0	0	10	0
6	The Jungle Book (2016)	8	7	0	2	9	0	6	0
7	Manchester by the Sea (2016)	0	0	2	8	0	0	0	0
8	Finding Dory (2016)	7	8	5	4	10	0	0	0
9	Captain America: Civil War (2016)	10	0	5	6	0	0	0	9
10	Moana (2016)	8	9	0	0	10	0	7	0

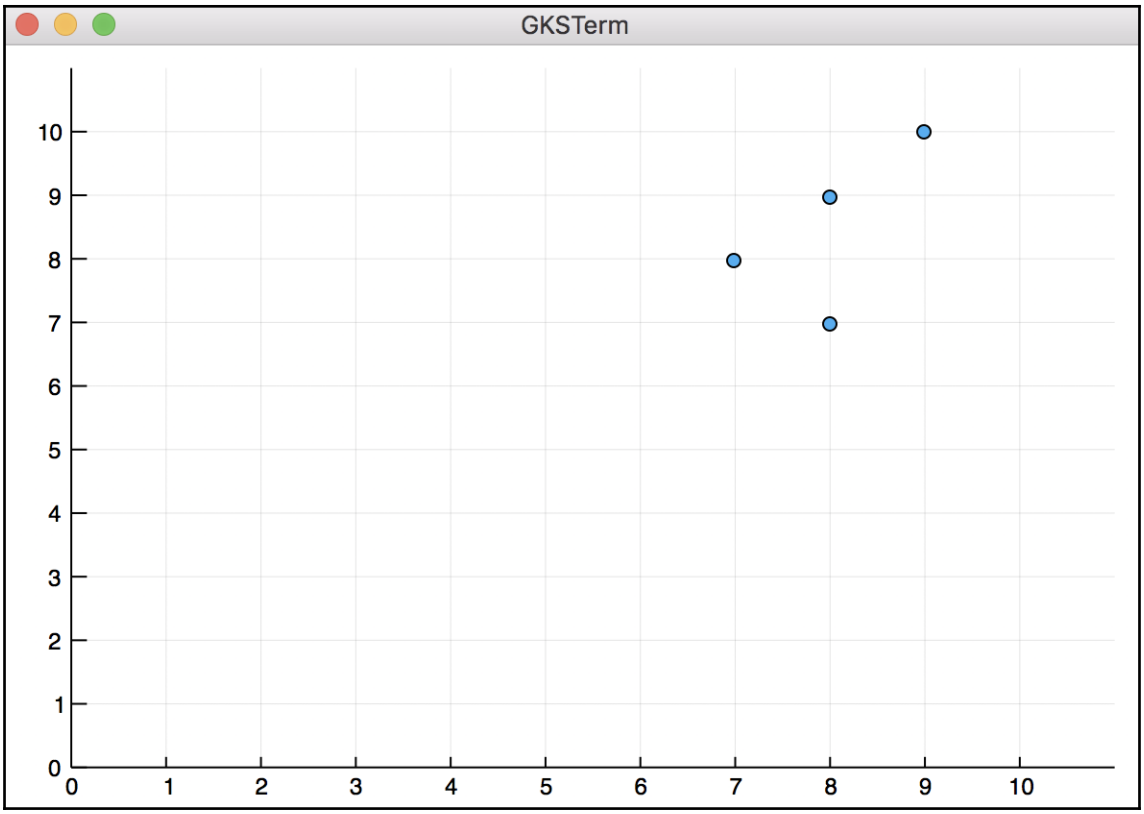


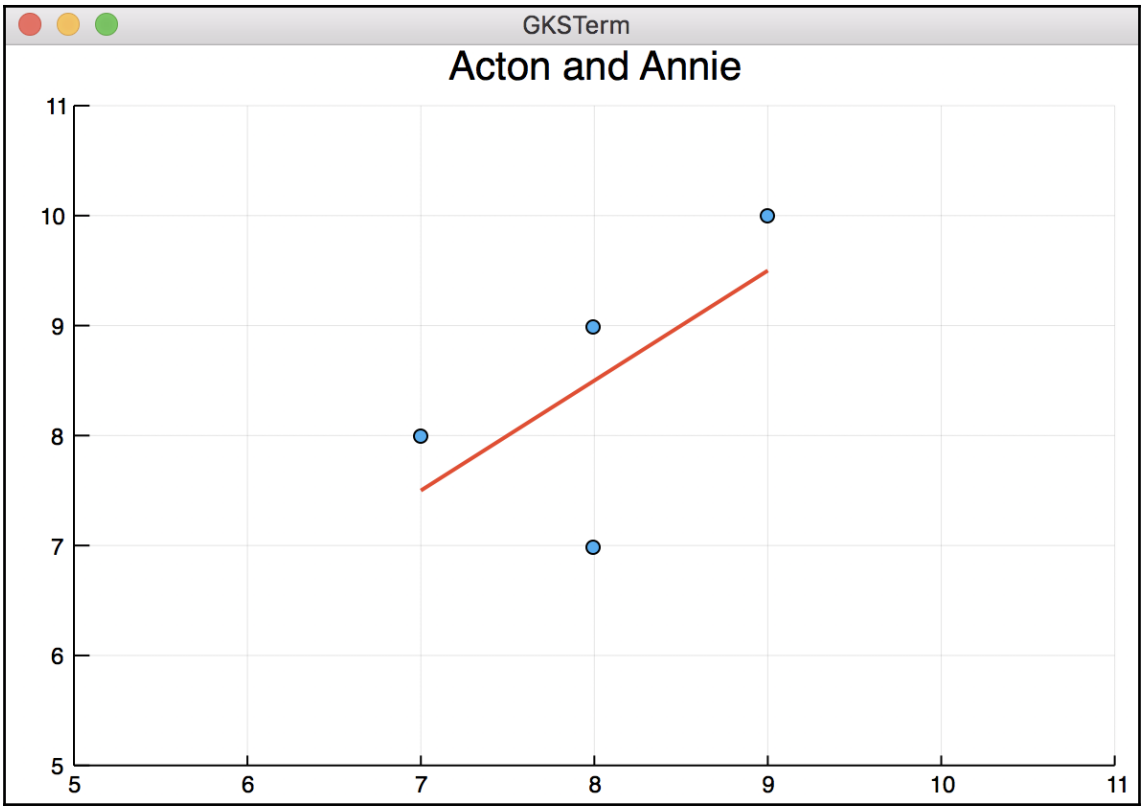
10×3 DataFrame

Row	Movie title Union{Missing, String}	Acton Int64?	Annie Int64?
1	Moonlight (2016)	0	3
2	Zootopia (2016)	9	10
3	Arrival (2016)	5	0
4	Hell or High Water (2016)	3	0
5	La La Land (2016)	6	0
6	The Jungle Book (2016)	8	7
7	Manchester by the Sea (2016)	0	0
8	Finding Dory (2016)	7	8
9	Captain America: Civil War (2016)	10	0
10	Moana (2016)	8	9

4×3 DataFrame

Row	Movie title Union{Missing, String}	Acton Int64?	Annie Int64?
1	Zootopia (2016)	9	10
2	The Jungle Book (2016)	8	7
3	Finding Dory (2016)	7	8
4	Moana (2016)	8	9


GKSTerm
10
9
8
7
6
5
4
3
2
1
0
0
1
2
3
4
5
6
7
8
9
10



4×3 DataFrame

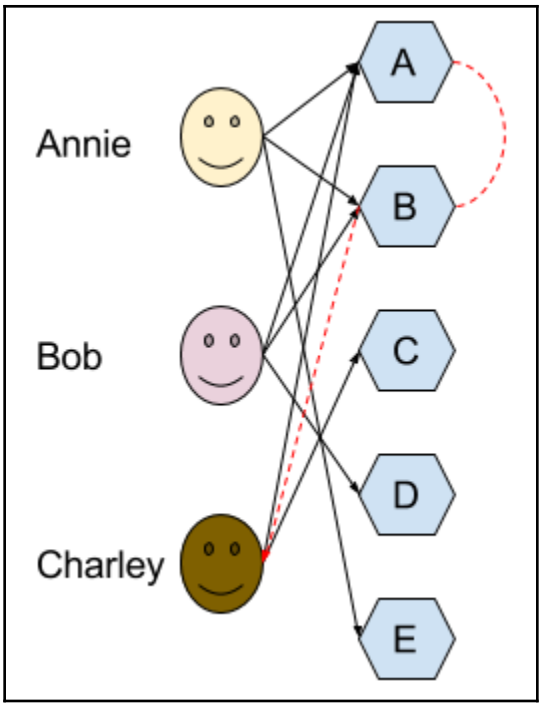
Row	Movie title Union{Missing, String}	Acton Int64	Annie Int64
1	Arrival (2016)	5	0
2	Hell or High Water (2016)	3	0
3	La La Land (2016)	6	0
4	Captain America: Civil War (2016)	10	0

1×3 DataFrame

Row	Movie title Union{Missing, String}	Acton Int64⍰	Annie Int64⍰
1	Captain America: Civil War (2016)	10	0

10×3 DataFrame

Row	Movie title Union{Missing, String}	Dean Int64⍰	Kit Int64⍰
1	Moonlight (2016)	10	0
2	Zootopia (2016)	0	10
3	Arrival (2016)	10	0
4	Hell or High Water (2016)	10	0
5	La La Land (2016)	9	0
6	The Jungle Book (2016)	2	9
7	Manchester by the Sea (2016)	8	0
8	Finding Dory (2016)	4	10
9	Captain America: Civil War (2016)	6	0
10	Moana (2016)	0	10




```
11×9 Array{Any,2}:
 "Movie title"                        "Acton"    "Annie"    "Comey"    "Dean"    "Kit"    "Missie"    "Musk"    "Sam"
 "Moonlight (2016)"                   0          3          0          10        0        9           2         0
 "Zootopia (2016)"                    9          10         7          0         10       0           5         0
 "Arrival (2016)"                     5          0          6          10        0        9           0         10
 "Hell or High Water (2016)"          3          0          3          10        0        8           0         0
 "La La Land (2016)"                  6          0          8          9         0        0           10        0
 "The Jungle Book (2016)"             8          7          0          2         9        0           6         0
 "Manchester by the Sea (2016)"       0          0          2          8         0        0           0         0
 "Finding Dory (2016)"                7          8          5          4         10       0           0         0
 "Captain America: Civil War (2016)"  10         0          5          6         0        0           0         9
 "Moana (2016)"                       8          9          0          0         10       0           7         0
```

```
9×11 Array{Any,2}:
 "Movie title"    "Moonlight (2016)"    "Zootopia (2016)"    "Arrival (2016)"    …    "Moana (2016)"
 "Acton"          0                     9                    5                        8
 "Annie"          3                     10                   0                        9
 "Comey"          0                     7                    6                        0
 "Dean"           10                    0                    10                       0
 "Kit"            0                     10                   0                   …    10
 "Missie"         9                     0                    9                        0
 "Musk"           2                     5                    0                        7
 "Sam"            0                     0                    10                       0
```

9×11 DataFrame

Row	x1 Any	x2 Any	x3 Any	x4 Any	x5 Any
1	Movie title	Moonlight (2016)	Zootopia (2016)	Arrival (2016)	Hell or High Water (2016)
2	Acton	0	9	5	3
3	Annie	3	10	0	0
4	Comey	0	7	6	3
5	Dean	10	0	10	10
6	Kit	0	10	0	0
7	Missie	9	0	9	8
8	Musk	2	5	0	0
9	Sam	0	0	10	0

Row	x6 Any	x7 Any	x8 Any
1	La La Land (2016)	The Jungle Book (2016)	Manchester by the Sea (2016)
2	6	8	0
3	0	7	0
4	8	0	2
5	9	2	8
6	0	9	0
7	0	0	0
8	10	6	0
9	0	0	0

Row	x9 Any	x10 Any	x11 Any
1	Finding Dory (2016)	Captain America: Civil War (2016)	Moana (2016)
2	7	10	8
3	8	0	9
4	5	5	0
5	4	6	0
6	10	0	10
7	0	0	0
8	0	0	7
9	0	9	0

9×11 DataFrame

Row	Movie title Any	Moonlight (2016) Any	Zootopia (2016) Any	Arrival (2016) Any	Hell or High Water (2016) Any
1	Movie title	Moonlight (2016)	Zootopia (2016)	Arrival (2016)	Hell or High Water (2016)
2	Acton	0	9	5	3
3	Annie	3	10	0	0
4	Comey	0	7	6	3
5	Dean	10	0	10	10
6	Kit	0	10	0	0
7	Missie	9	0	9	8
8	Musk	2	5	0	0
9	Sam	0	0	10	0

Row	La La Land (2016) Any	The Jungle Book (2016) Any	Manchester by the Sea (2016) Any
1	La La Land (2016)	The Jungle Book (2016)	Manchester by the Sea (2016)
2	6	8	0
3	0	7	0
4	8	0	2
5	9	2	8
6	0	9	0
7	0	0	0
8	10	6	0
9	0	0	0

Row	Finding Dory (2016) Any	Captain America: Civil War (2016) Any	Moana (2016) Any
1	Finding Dory (2016)	Captain America: Civil War (2016)	Moana (2016)
2	7	10	8
3	8	0	9
4	5	5	0
5	4	6	0
6	10	0	10
7	0	0	0
8	0	0	7
9	0	9	0

8×11 DataFrame

Row	User	Moonlight (2016)	Zootopia (2016)	Arrival (2016)	Hell or High Water (2016)
	Any	Any	Any	Any	Any
1	Acton	0	9	5	3
2	Annie	3	10	0	0
3	Comey	0	7	6	3
4	Dean	10	0	10	10
5	Kit	0	10	0	0
6	Missie	9	0	9	8
7	Musk	2	5	0	0
8	Sam	0	0	10	0

Row	La La Land (2016)	The Jungle Book (2016)	Manchester by the Sea (2016)
	Any	Any	Any
1	6	8	0
2	0	7	0
3	8	0	2
4	9	2	8
5	0	9	0
6	0	0	0
7	10	6	0
8	0	0	0

Row	Finding Dory (2016)	Captain America: Civil War (2016)	Moana (2016)
	Any	Any	Any
1	7	10	8
2	8	0	9
3	5	5	0
4	4	6	0
5	10	0	10
6	0	0	0
7	0	0	7
8	0	9	0

Chapter 7: Machine Learning for Recommender Systems

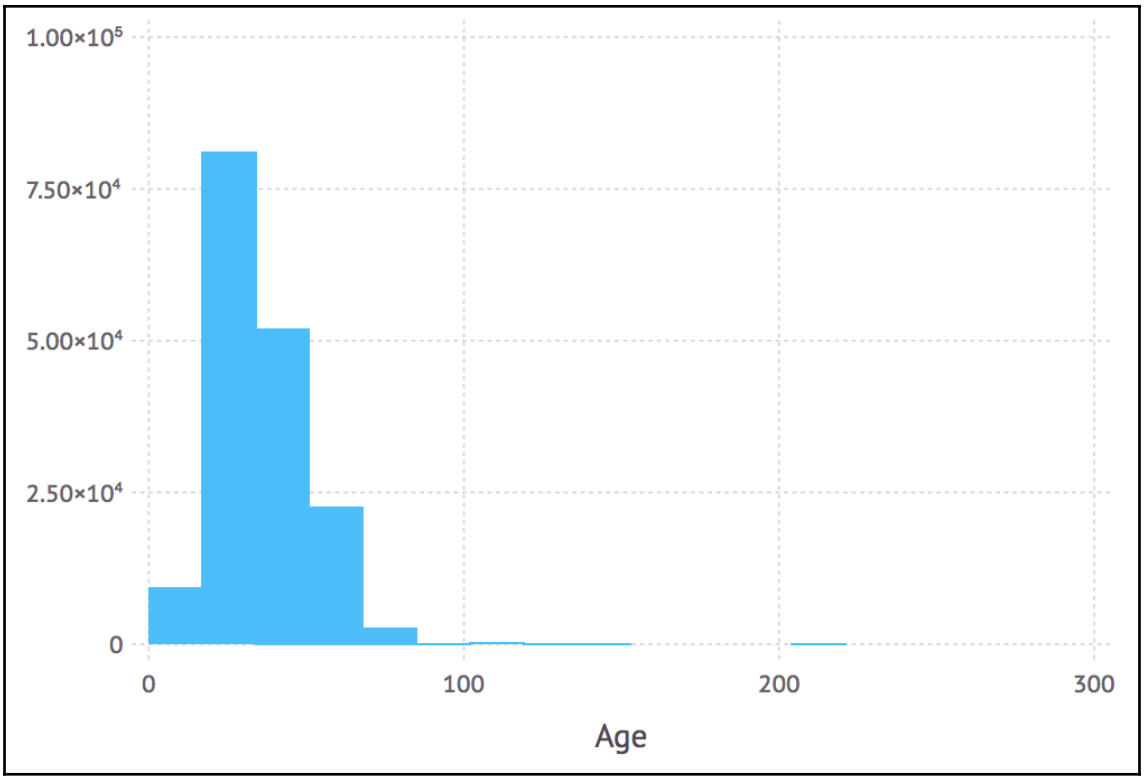
```
"User-ID";"Location";"Age"¬
"1";"nyc, new york, usa";NULL¬
"2";"stockton, california, usa";"18"¬
"3";"moscow, yukon territory, russia";NULL¬
"4";"porto, v.n.gaia, portugal";"17"¬
"5";"farnborough, hants, united kingdom";NULL¬
"6";"santa monica, california, usa";"61"¬
```

278858×3 DataFrames.DataFrame

Row	User-ID Int64	Location Union{Missing, String}	Age Int64
1	1	nyc, new york, usa	missing
2	2	stockton, california, usa	18
3	3	moscow, yukon territory, russia	missing
4	4	porto, v.n.gaia, portugal	17
5	5	farnborough, hants, united kingdom	missing
6	6	santa monica, california, usa	61

3×6 DataFrame

Row	variable Symbol	min Any	max Any	nmissing Int64	nunique Union…	eltype DataType
1	User-ID	1	278858	0		Int64
2	Location	"alexandria"., "alexandria"., egypt	\xfdzm\xfdr, n/a, turkey	0	57339	String
3	Age	0	244	110762		Int64

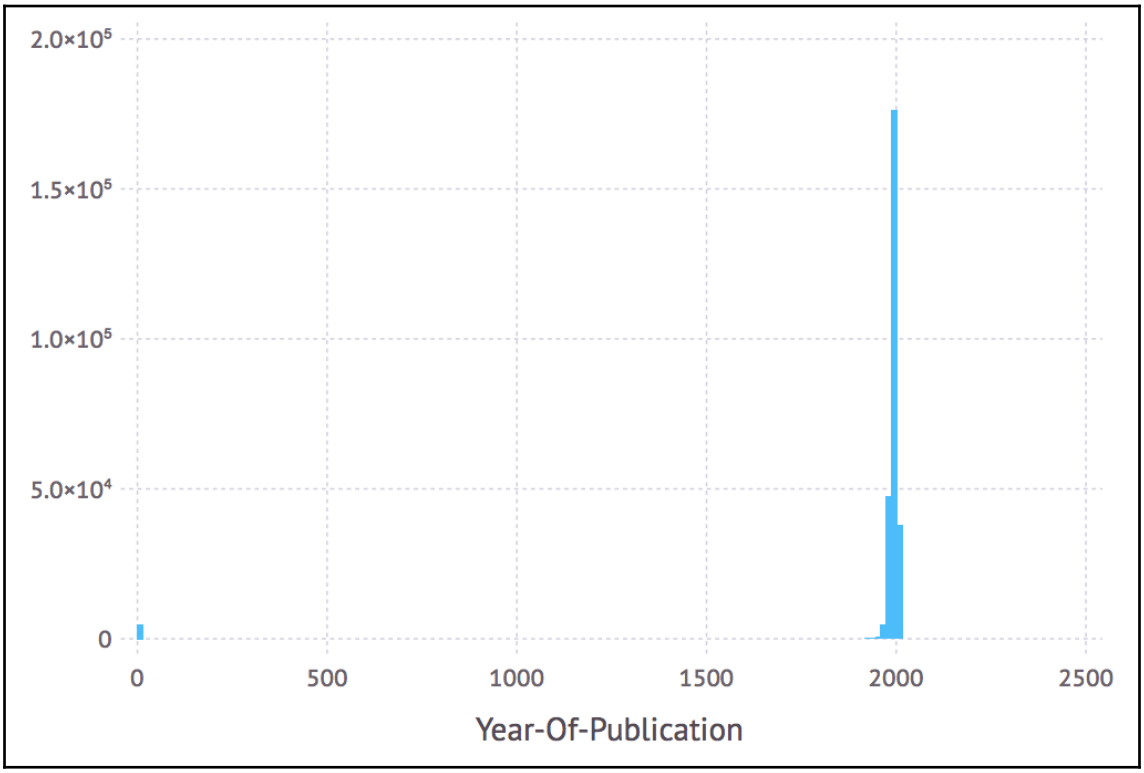


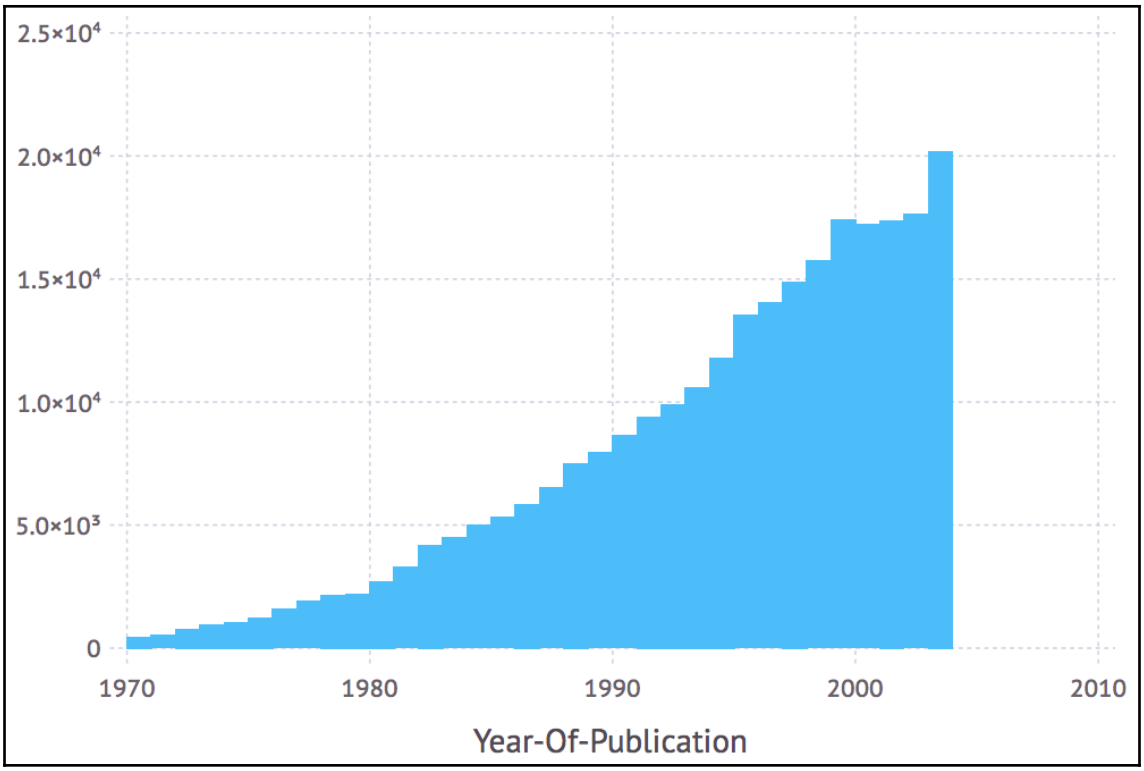
6×3 DataFrame

Row	User-ID Int64	Location Union{Missing, String}	Age Real
1	1	nyc, new york, usa	34.7514
2	2	stockton, california, usa	18
3	3	moscow, yukon territory, russia	34.7514
4	4	porto, v.n.gaia, portugal	17
5	5	farnborough, hants, united kingdom	34.7514
6	6	santa monica, california, usa	61

8×4 DataFrame

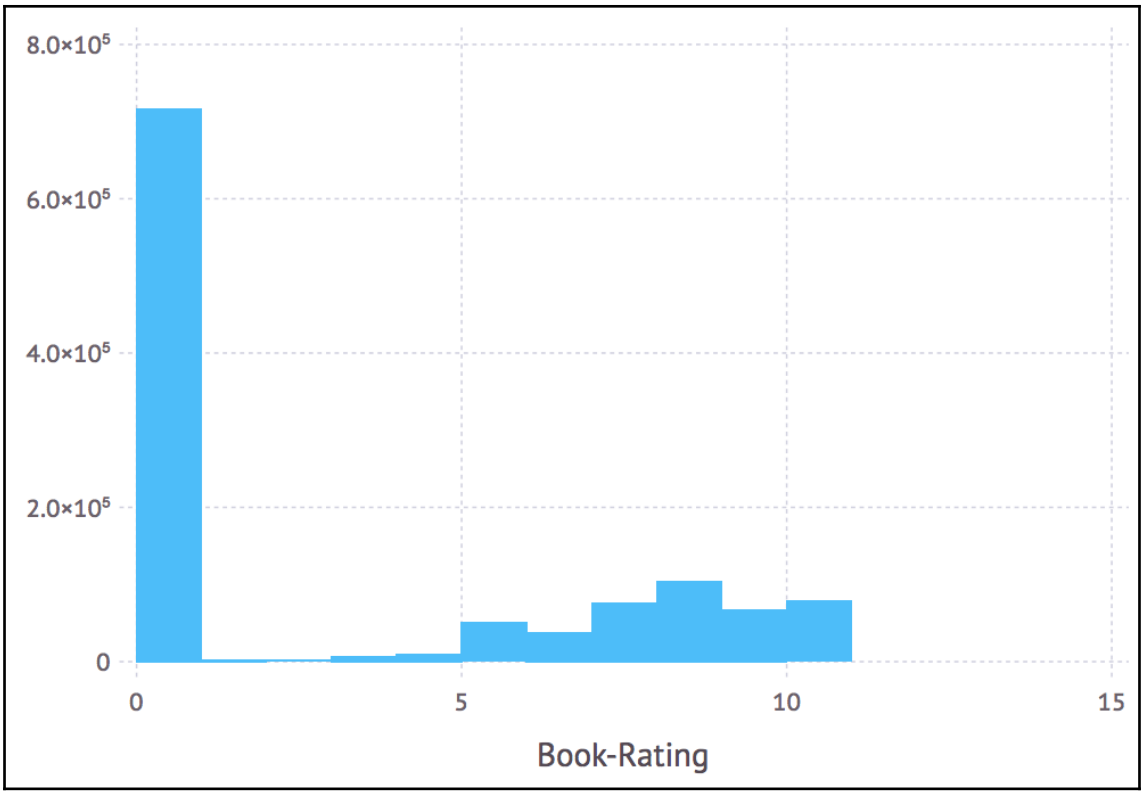
Row	variable Symbol	nmissing Int64	nunique Union…	eltype DataType
1	ISBN	0	271379	String
2	Book-Title	0	242154	String
3	Book-Author	0	102028	String
4	Year-Of-Publication	0		Int64
5	Publisher	0	16807	String
6	Image-URL-S	0	271063	String
7	Image-URL-M	0	271063	String
8	Image-URL-L	0	271063	String

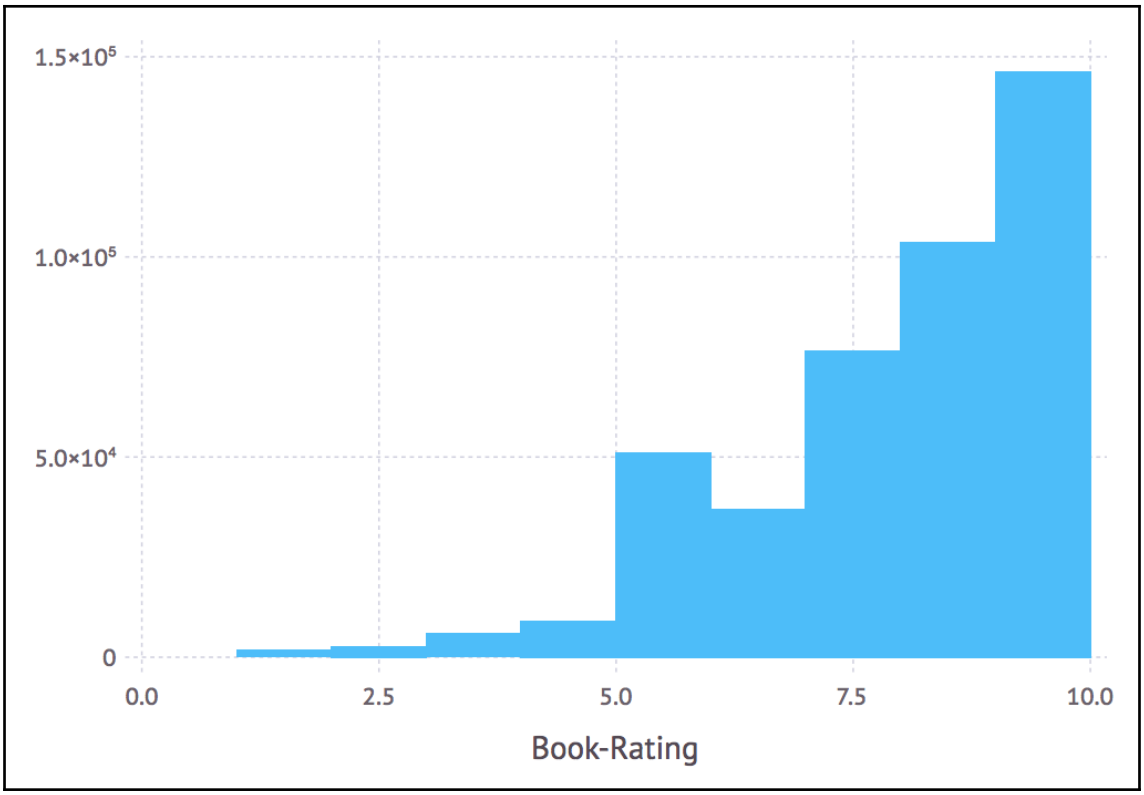




3×8 DataFrame

Row	variable Symbol	mean Union…	min Any	median Union…	max Any	nunique Union…	nmissing Int64	eltype DataType
1	User-ID	1.40386e5	2	141010.0	278854		0	Int64
2	ISBN		0330299891		Ɯcrosoft	340556	0	String
3	Book-Rating	2.86695	0	0.0	10		0	Int64


8.0×10^5
6.0×10^5
4.0×10^5
2.0×10^5
0
0
5
10
15
Book-Rating

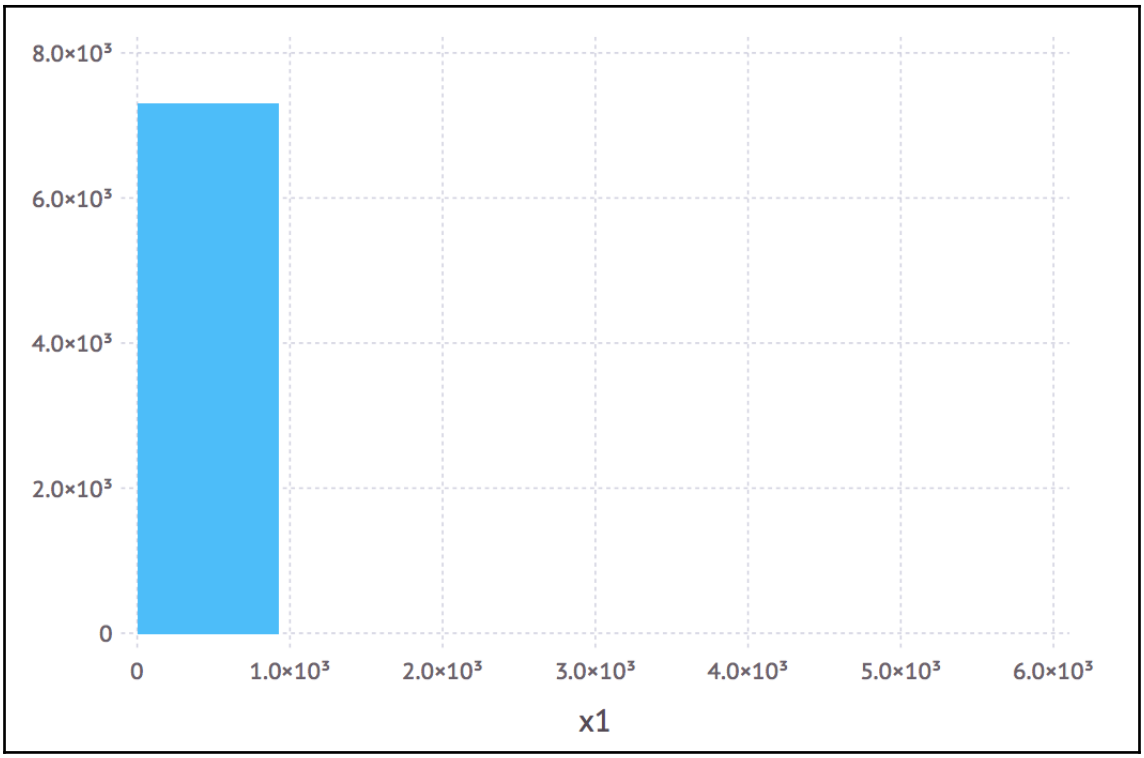

1.5×10^5
1.0×10^5
5.0×10^4
0
0.0
2.5
5.0
7.5
10.0
Book-Rating

46106×2 DataFrame

Row	UserID Int64?	x1 Int64
1	276747	3
2	276751	1
3	276754	1
4	276762	1
5	276772	2
6	276774	1

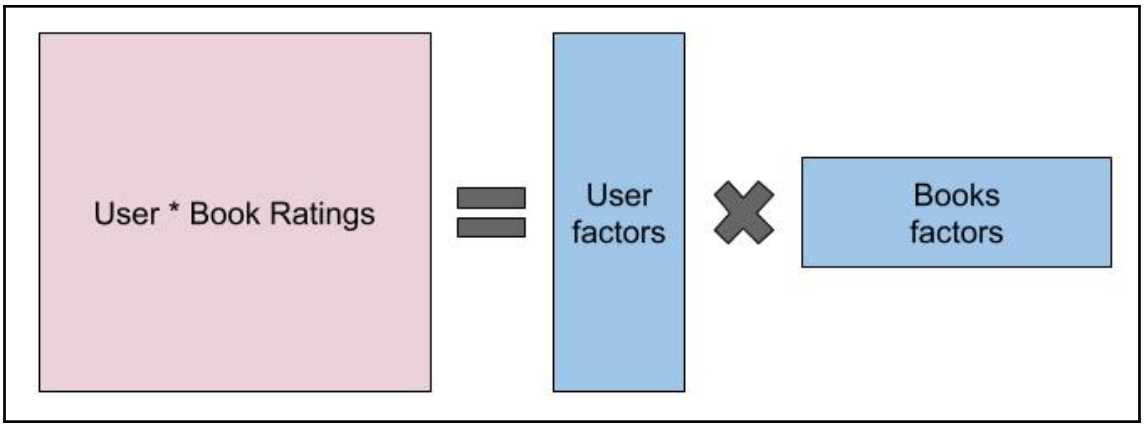
2×8 DataFrame

Row	variable Symbol	mean Float64	min Int64	median Float64	max Int64	nunique Nothing	nmissing Union…	eltype DataType
1	UserID	1.39098e5	12	1.38387e5	278854		0	Int64
2	x1	4.72804	1	1.0	5491			Int64



3×2 DataFrame

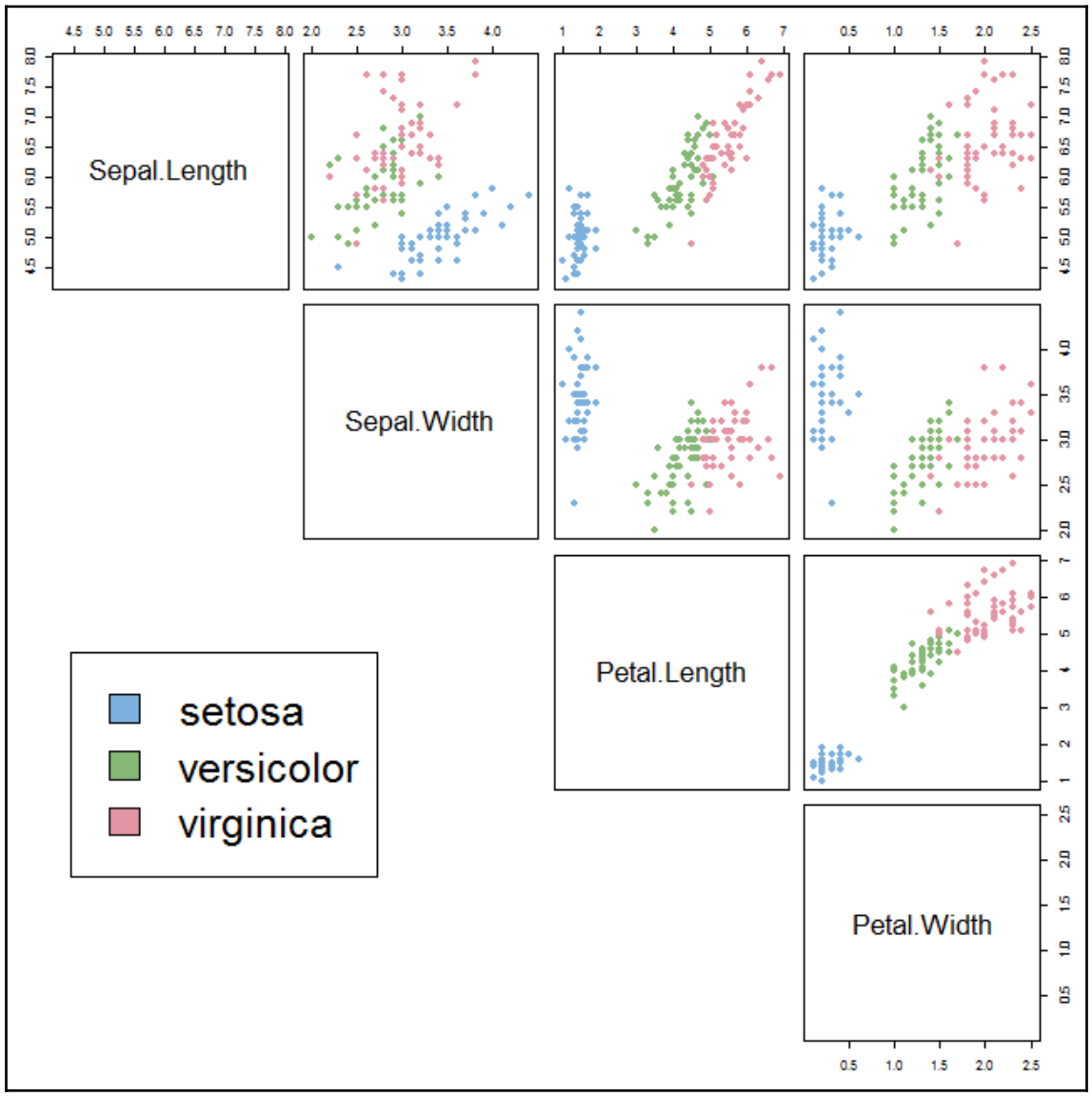
Row	UserID Int64?	x1 Int64
1	11676	3639
2	98391	5491
3	153662	1579

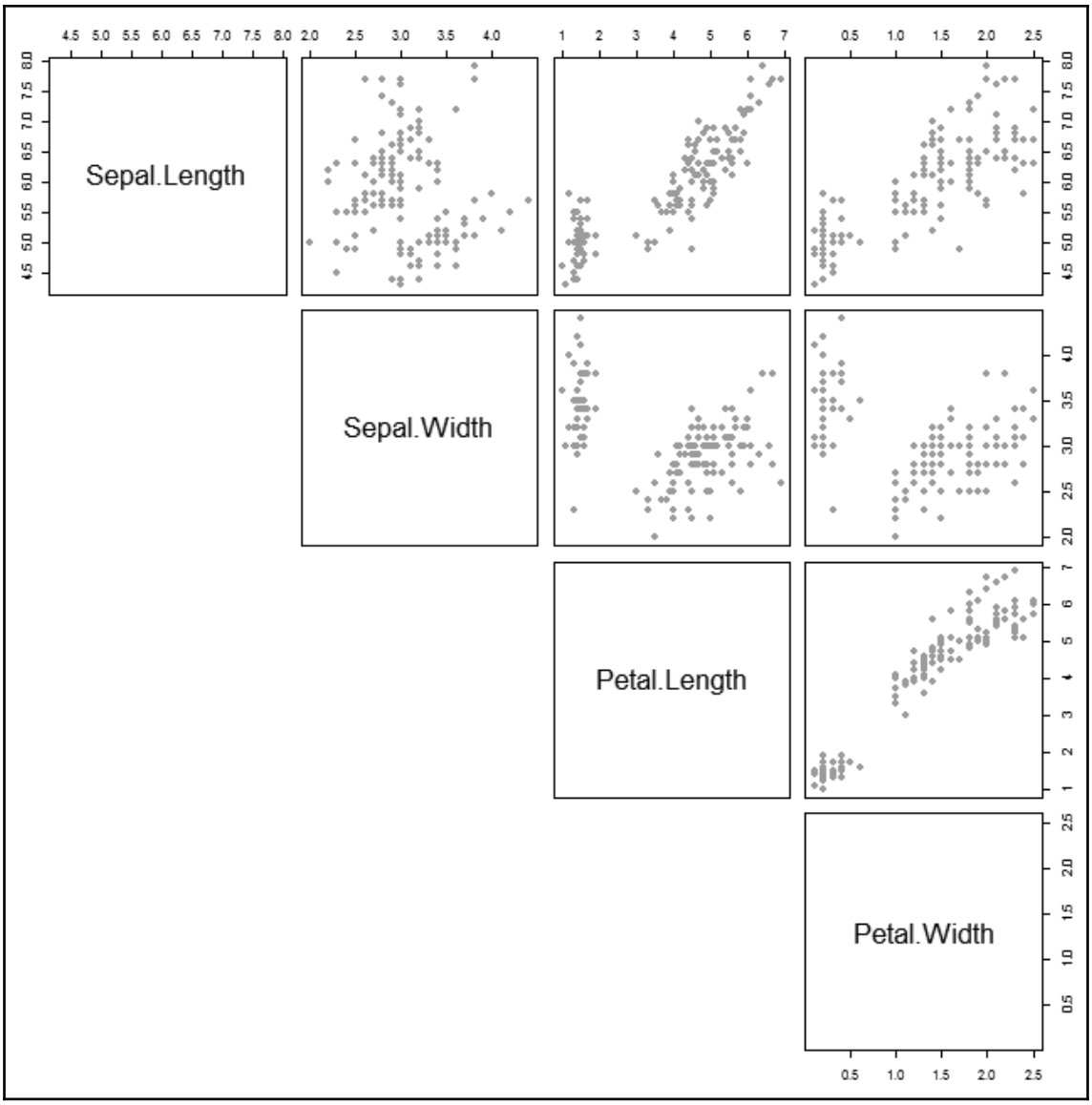


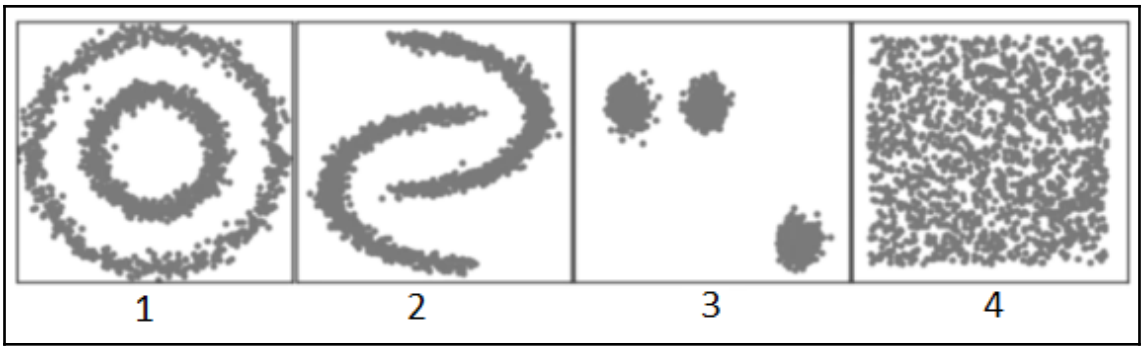
Row	UserID Int64	ISBN String	Rating Int64
1	277427	0060006641	10
2	277427	0441627404	10
3	277427	0446600415	10
4	277427	0671727079	9
5	277427	0671740504	8
6	277427	0671749897	8
7	277427	0836218817	10
8	277427	0842370668	10

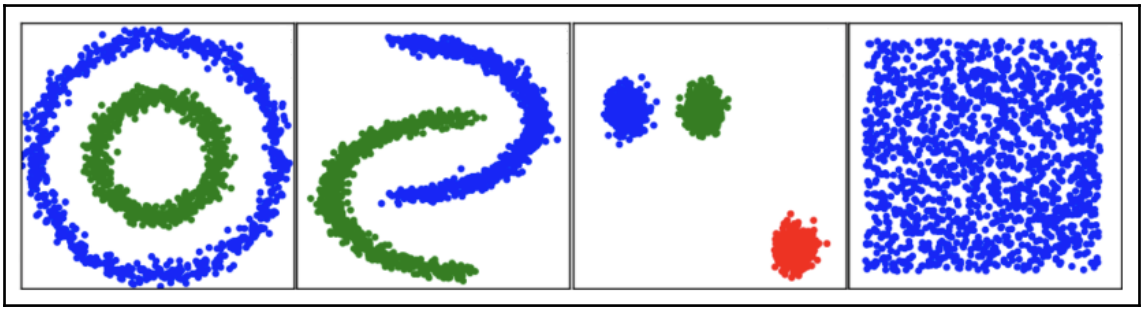
```
for img in thumbs[:, :Thumb]
    HTML("""<img src="$(img)">""") |> display
end
```

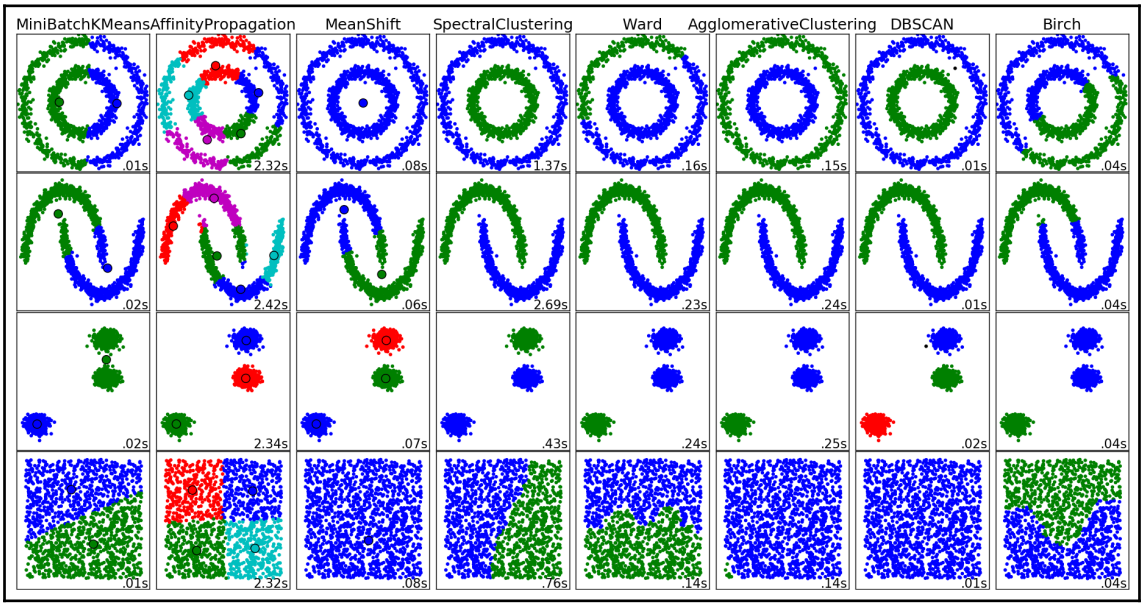
Chapter 8: Leveraging Unsupervised Learning Techniques




Sepal.Length
Sepal.Width
Petal.Length
Petal.Width


1
2
3
4




MiniBatchKMeans
AffinityPropagation
MeanShift
SpectralClustering
Ward
AgglomerativeClustering
DBSCAN
Birch
.01s
2.32s
.08s
1.37s
.16s
.15s
.01s
.04s
.02s
2.42s
.06s
2.69s
.23s
.24s
.01s
.04s
.02s
2.34s
.07s
.43s
.24s
.25s
.02s
.04s
.01s
2.32s
.08s
.76s
.14s
.14s
.01s
.04s

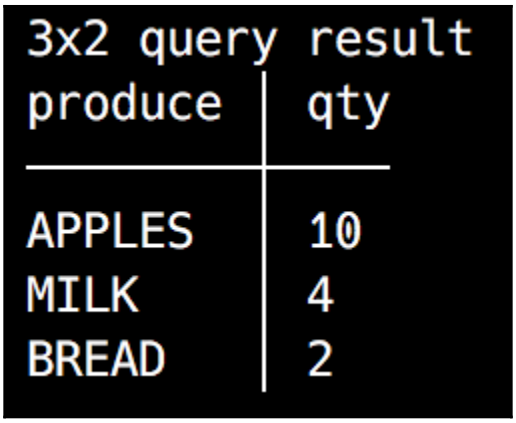
Row	variable Symbol	nunique Union…	nmissing Int64
1	Location Id	222871	0
2	Business Account Number		0
3	Ownership Name	164934	0
4	DBA Name	190345	0
5	Street Address	156657	4
6	City	2373	266
7	State	61	678
8	Source Zipcode		103
9	Business Start Date	11597	0
10	Business End Date	2958	173184
11	Location Start Date	11480	0
12	Location End Date	3207	154644
13	Mail Address	104156	49688
14	Mail City	2328	47521
15	Mail Zipcode	4105	47570
16	Mail State	71	49751
17	NAICS Code	661	89763
18	NAICS Code Description	18	89763
19	Parking Tax		0
20	Transient Occupancy Tax		0
21	LIC Code	747	212545
22	LIC Code Description	104	212545
23	Supervisor District		86899
24	Neighborhoods - Analysis Boundaries	41	86904
25	Business Corridor	10	222597
26	Business Location	104904	50638

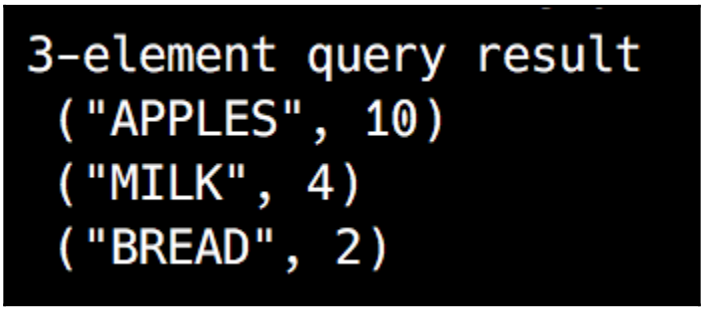
10×2 DataFrame

Row	DBA Name Union{Missing, String}	Parking Tax Bool
1	Test 12/28/2017 Location 1 / Parking	true
2	Douglas Parking	true
3	Douglas Parking	true
4	Douglas Parking	true
5	Volume Parking Services	true
6	Douglas Parking	true
7	Douglas Parking	true
8	Hyde Park Management Llc	true
9	Chestnut Street Lot	true
10	Fillmore Heritage Garage	true

3×2 DataFrame

Row	produce String	qty Int64
1	Apples	5
2	Milk	2
3	Bread	1






```
3-element Array{NamedTuple{(:PRODUCE, :double_qty),Tuple{String,Int64}},1}:
 (PRODUCE = "APPLES", double_qty = 10)
 (PRODUCE = "MILK", double_qty = 4)
 (PRODUCE = "BREAD", double_qty = 2)
```

3×2 DataFrame

Row	PRODUCE String	double_qty Int64
1	APPLES	10
2	MILK	4
3	BREAD	2

1×2 DataFrame

Row	produce String	qty Int64
1	Bread	1

2×2 DataFrame

Row	produce String	week_qty Int64
1	Apples	35
2	Milk	14

3×3 DataFrame

Row	produce String	price Float64	allergenic Bool
1	Apples	2.2	false
2	Milk	0.45	true
3	Bread	0.79	true

3×4 DataFrame

Row	produce String	qty Int64	price Float64	allergenic Bool
1	Apples	5	2.2	false
2	Milk	2	0.45	true
3	Bread	1	0.79	true

2×3 DataFrame

Row	allergenic Bool	count Int64	produce String
1	false	1	Apples
2	true	2	Milk, Bread

3×3 DataFrame

Row	produce String	price Float64	allergenic Bool
1	Apples	2.2	false
2	Bread	0.79	true
3	Milk	0.45	true

56549×6 DataFrame

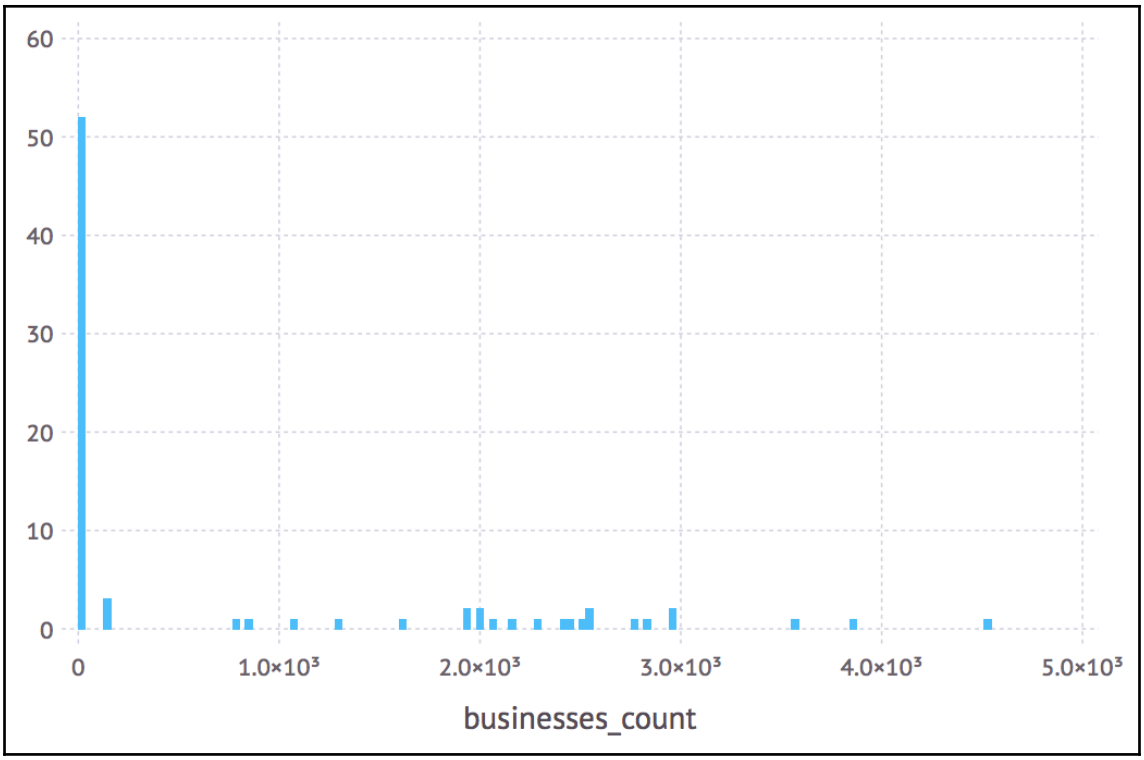
Row	DBA_Name Union{Missing, String}	Source_Zipcode Int64⍰	NAICS_Code String⍰	NAICS_Code_Description Union{Missing, String}	lat Float64	long Float64
1	Zaalouk Market & Deli Grocery	94109	4400-4599	Retail Trade	37.7877	-122.42
2	1-11 Lilac St Apts	94110	5300-5399	Real Estate and Rental and Leasing Services	37.7519	-122.418
3	Global-Exchange.org	94117	5100-5199	Information	37.7725	-122.45
4	3101 Laguna Apts	94123	5300-5399	Real Estate and Rental and Leasing Services	37.7998	-122.431
5	Gosha Do Co	94118	4400-4599	Retail Trade	37.7829	-122.451
6	Sunflower Restaurant	94103	7220-7229	Food Services	37.7649	-122.422
7	Academy Of Art University	94105	6100-6299	Private Education and Health Services	37.7877	-122.401
8	Burma Super Star Restaurant	94118	7220-7229	Food Services	37.783	-122.463
9	Jug Shop Inc	94108	4400-4599	Retail Trade	37.795	-122.421
10	Miller Fleming & Assocs	94104	5210-5239	Financial Services	37.7912	-122.402

79×2 DataFrame

Row	zipcode Float64	businesses_count Float64
1	94110.0	4528.0
2	94103.0	3862.0
3	94109.0	3575.0
4	94118.0	2974.0
5	94107.0	2960.0
6	94122.0	2829.0
7	94102.0	2767.0
8	94117.0	2559.0
9	94114.0	2541.0
10	94133.0	2516.0

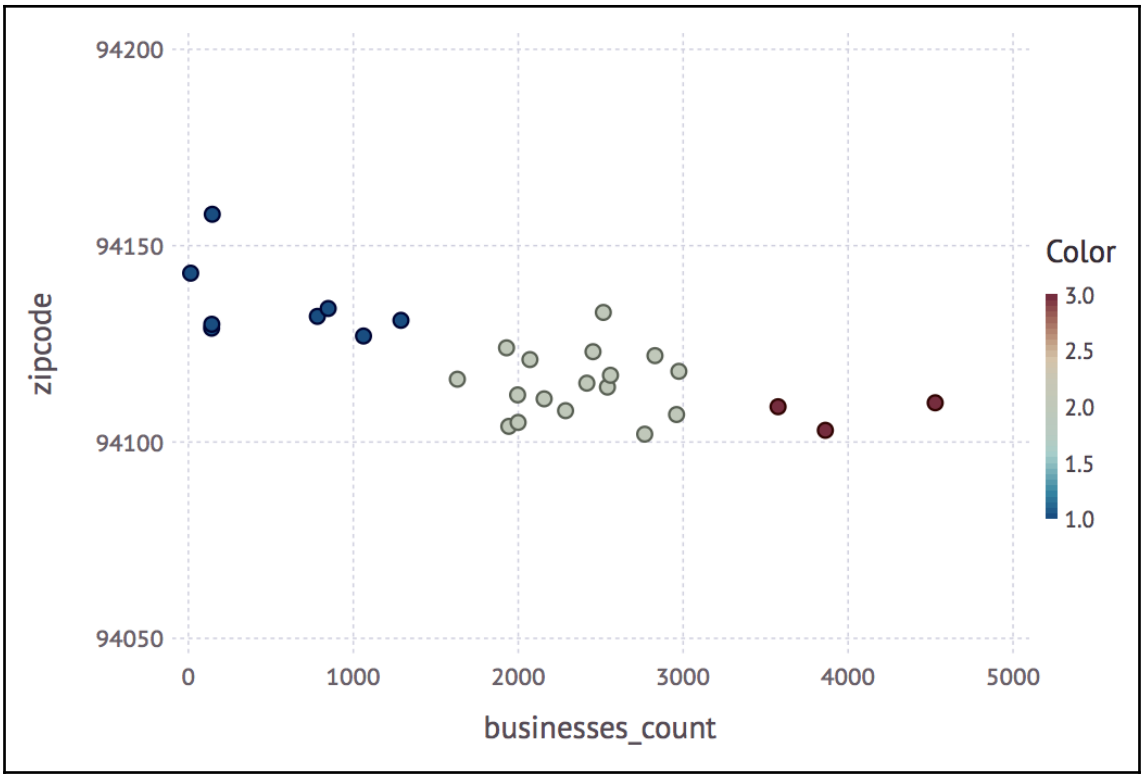
6×2 DataFrame

Row	zipcode	businesses_count
	Float64	Float64
1	98104.0	1.0
2	95202.0	1.0
3	94546.0	1.0
4	96150.0	1.0
5	94966.0	1.0
6	94028.0	1.0


60
50
40
30
20
10
0
0
1.0×10³
2.0×10³
3.0×10³
4.0×10³
5.0×10³
businesses_count

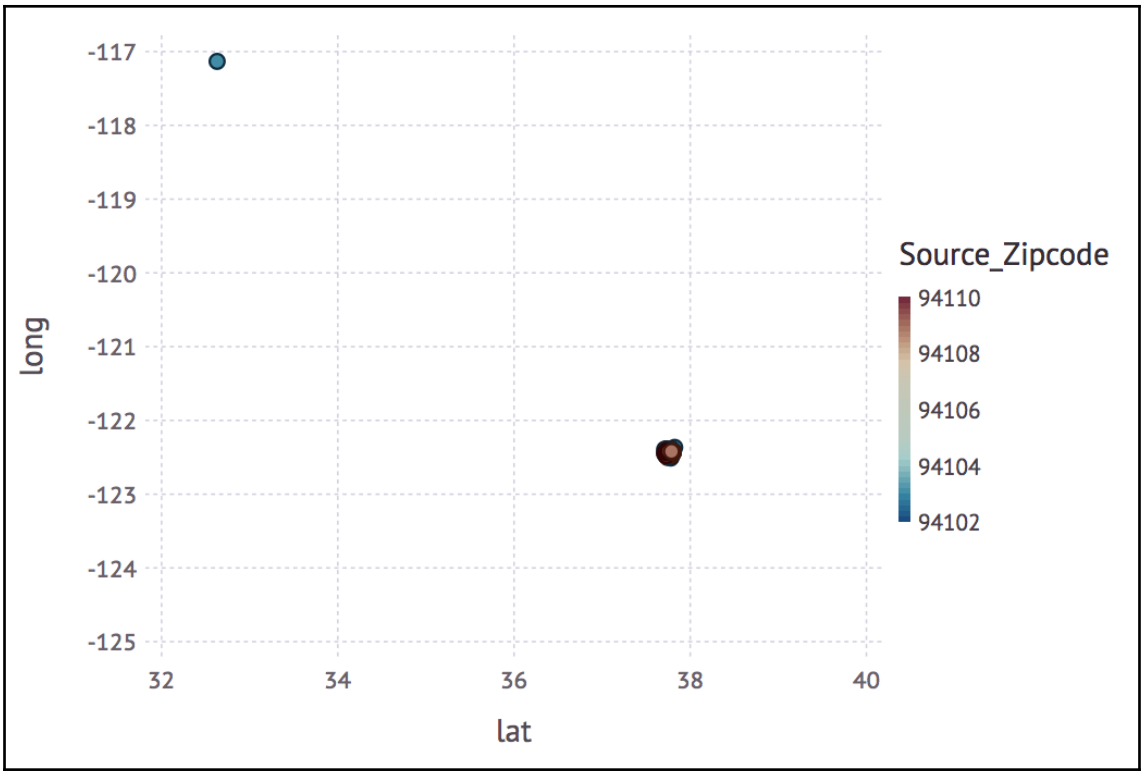
28×3 DataFrame

Row	zipcode Float64	businesses_count Float64	cluster_id Int64
1	94110.0	4528.0	3
2	94103.0	3862.0	3
3	94109.0	3575.0	3
4	94118.0	2974.0	1
5	94107.0	2960.0	1
6	94122.0	2829.0	1
7	94102.0	2767.0	1
8	94117.0	2559.0	1
9	94114.0	2541.0	1
10	94133.0	2516.0	1
11	94123.0	2453.0	1
12	94115.0	2416.0	1
13	94108.0	2287.0	1
14	94111.0	2157.0	1
15	94121.0	2071.0	1
16	94105.0	1999.0	1
17	94112.0	1996.0	1
18	94104.0	1943.0	1
19	94124.0	1929.0	1
20	94116.0	1631.0	1
21	94131.0	1289.0	2
22	94127.0	1062.0	2
23	94134.0	848.0	2
24	94132.0	782.0	2
25	94158.0	145.0	2
26	94130.0	142.0	2
27	94129.0	141.0	2
28	94143.0	14.0	2



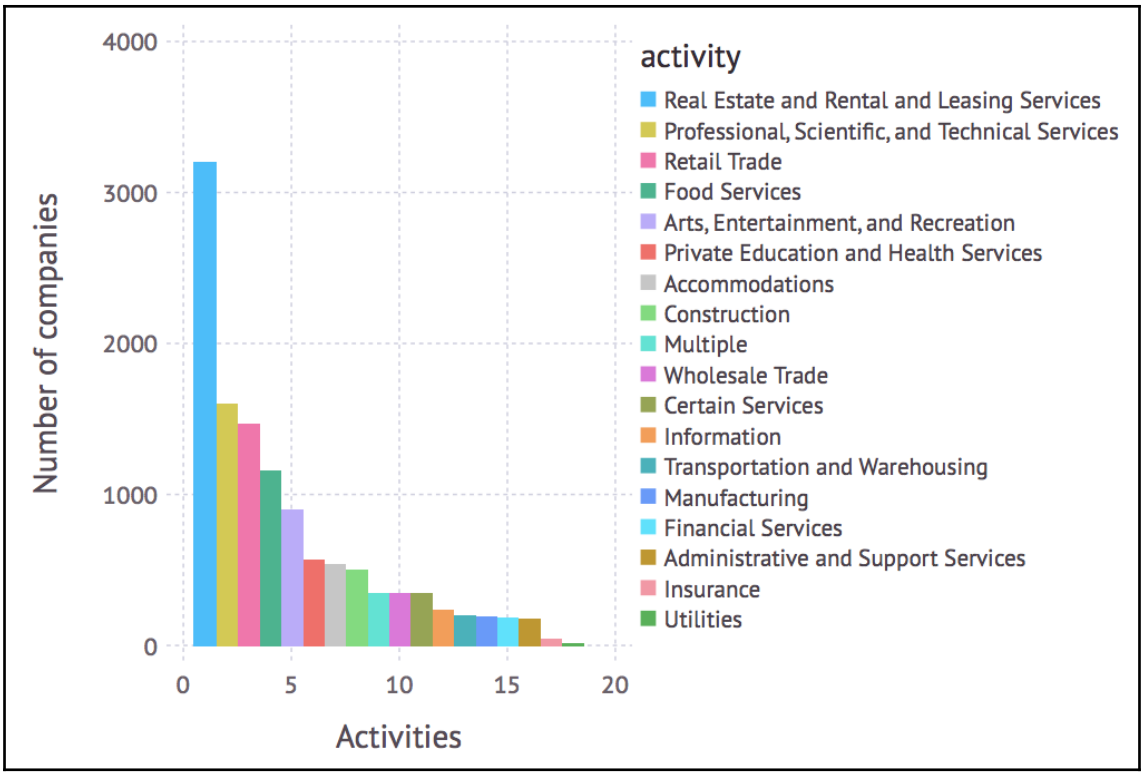
11965×6 DataFrame

Row	DBA_Name Union{Missing, String}	Source_Zipcode Int64	NAICS_Code String	NAICS_Code_Description Union{Missing, String}	lat Float64	long Float64
1	Zaalouk Market & Deli Grocery	94109	4400-4599	Retail Trade	37.7877	-122.42
2	1-11 Lilac St Apts	94110	5300-5399	Real Estate and Rental and Leasing Services	37.7519	-122.418
3	Sunflower Restaurant	94103	7220-7229	Food Services	37.7649	-122.422
4	Bay Music & Entertainment Inc	94109	7100-7199	Arts, Entertainment, and Recreation	37.7957	-122.423
5	Impark 0376	94109	4400-4599	Retail Trade	37.7891	-122.417
6	Geologica Inc	94103	5400-5499	Professional, Scientific, and Technical Services	37.7875	-122.403
7	Impark 0315	94109	4400-4599	Retail Trade	37.7894	-122.422
8	Impark 0324	94103	4400-4599	Retail Trade	37.7867	-122.405
9	Impark 0370	94103	4400-4599	Retail Trade	37.7818	-122.405
10	Impark 0377	94103	4400-4599	Retail Trade	37.787	-122.403


-117
-118
-119
-120
-121
-122
-123
-124
-125
long
32
34
36
38
40
lat
Source_Zipcode
94110
94108
94106
94104
94102

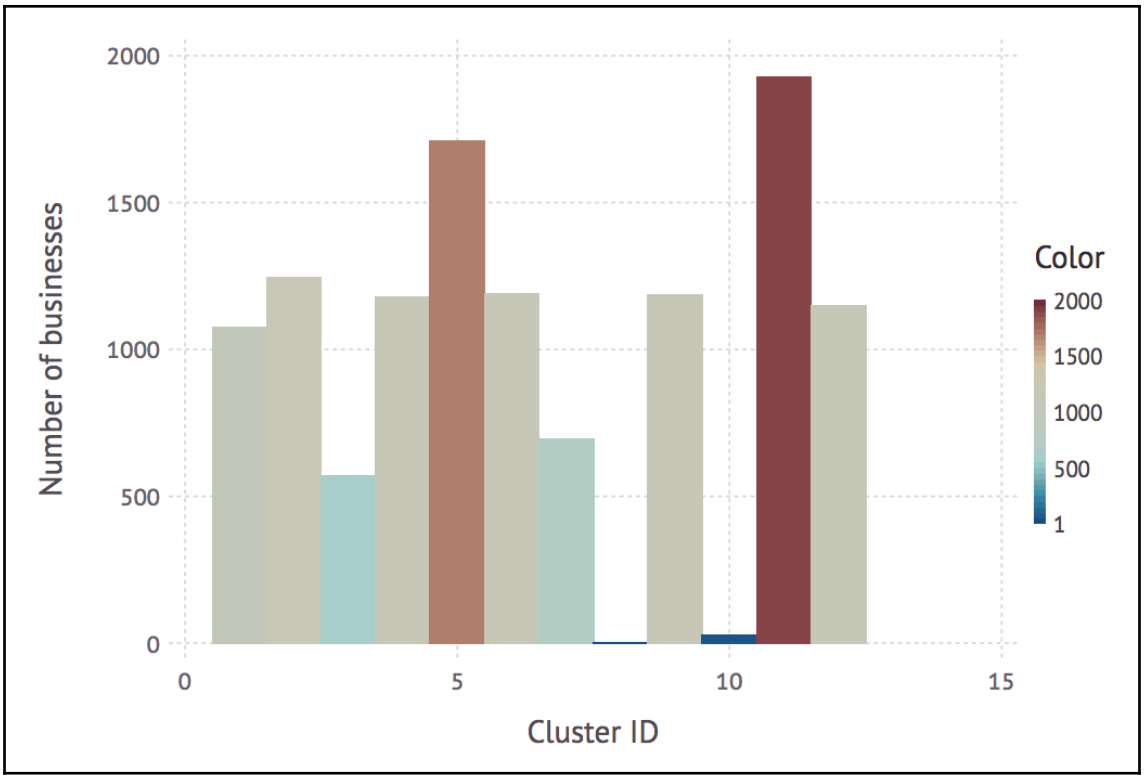
18×2 DataFrame

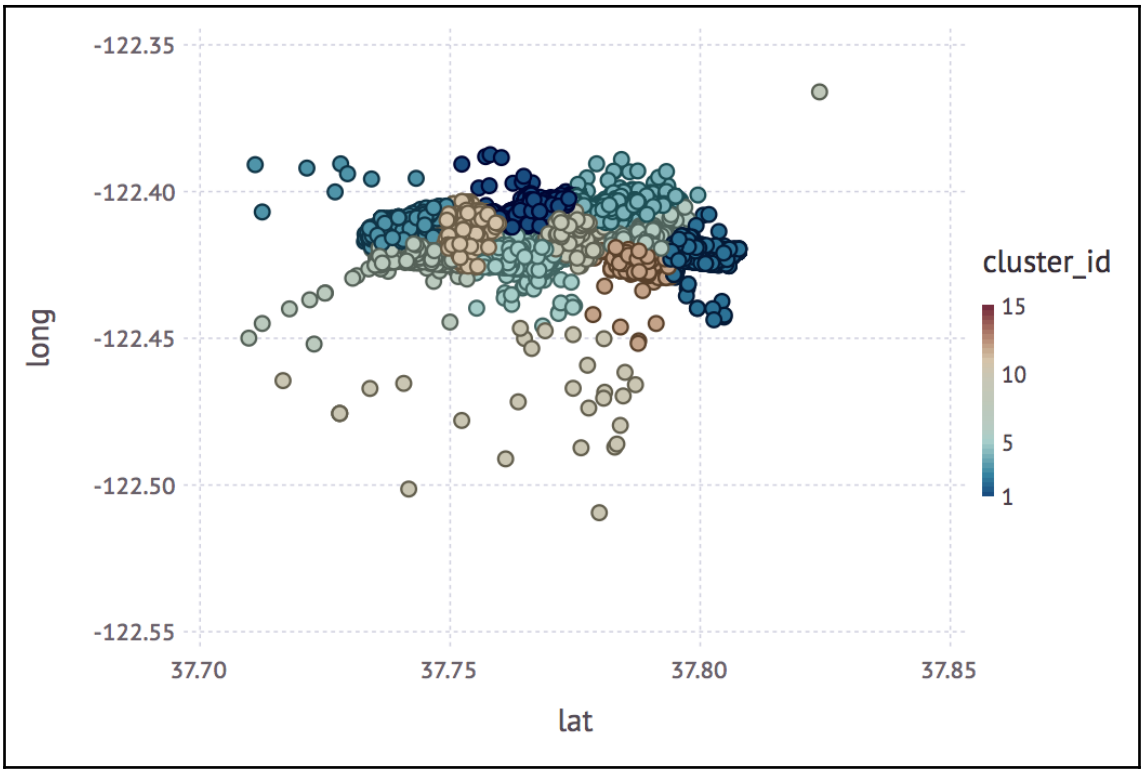
Row	activity Union{Missing, String}	number_of_companies Int64
1	Real Estate and Rental and Leasing Services	3198
2	Professional, Scientific, and Technical Services	1596
3	Retail Trade	1467
4	Food Services	1154
5	Arts, Entertainment, and Recreation	894
6	Private Education and Health Services	568
7	Accommodations	537
8	Construction	496
9	Multiple	343
10	Wholesale Trade	343
11	Certain Services	341
12	Information	235
13	Transportation and Warehousing	194
14	Manufacturing	187
15	Financial Services	184
16	Administrative and Support Services	176
17	Insurance	39
18	Utilities	12


4000
3000
2000
1000
0
Number of companies
0
5
10
15
20
Activities
activity
Real Estate and Rental and Leasing Services
Professional, Scientific, and Technical Services
Retail Trade
Food Services
Arts, Entertainment, and Recreation
Private Education and Health Services
Accommodations
Construction
Multiple
Wholesale Trade
Certain Services
Information
Transportation and Warehousing
Manufacturing
Financial Services
Administrative and Support Services
Insurance
Utilities

11964×2 DataFrame

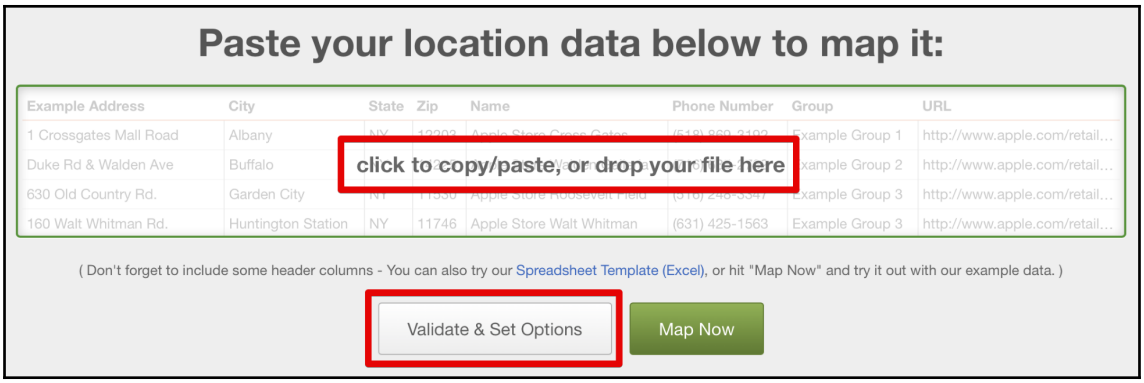
Row	latitude Float64⍰	longitude Float64⍰
1	37.7877	-122.42
2	37.7519	-122.418
3	37.7649	-122.422
4	37.7957	-122.423
5	37.7891	-122.417
6	37.7875	-122.403
7	37.7894	-122.422
8	37.7867	-122.405
9	37.7818	-122.405
10	37.787	-122.403

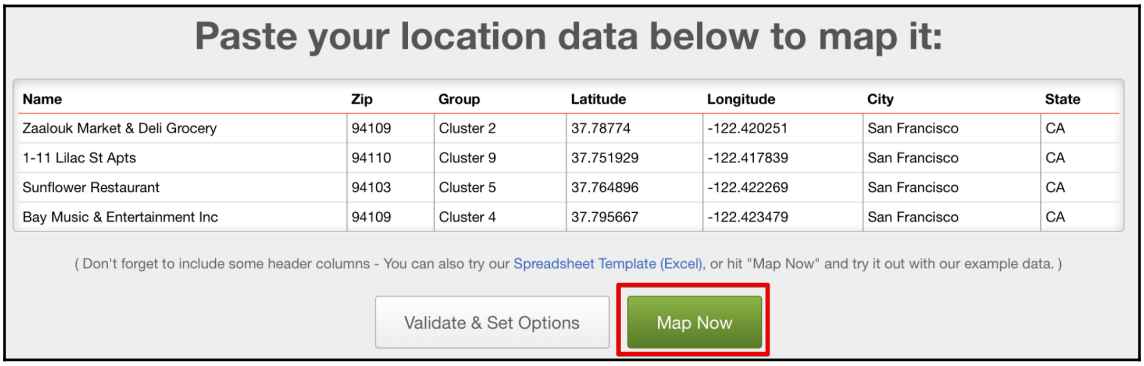

2000
1500
1000
500
0
Number of businesses
0
5
10
15
Cluster ID
Color
2000
1500
1000
500
1

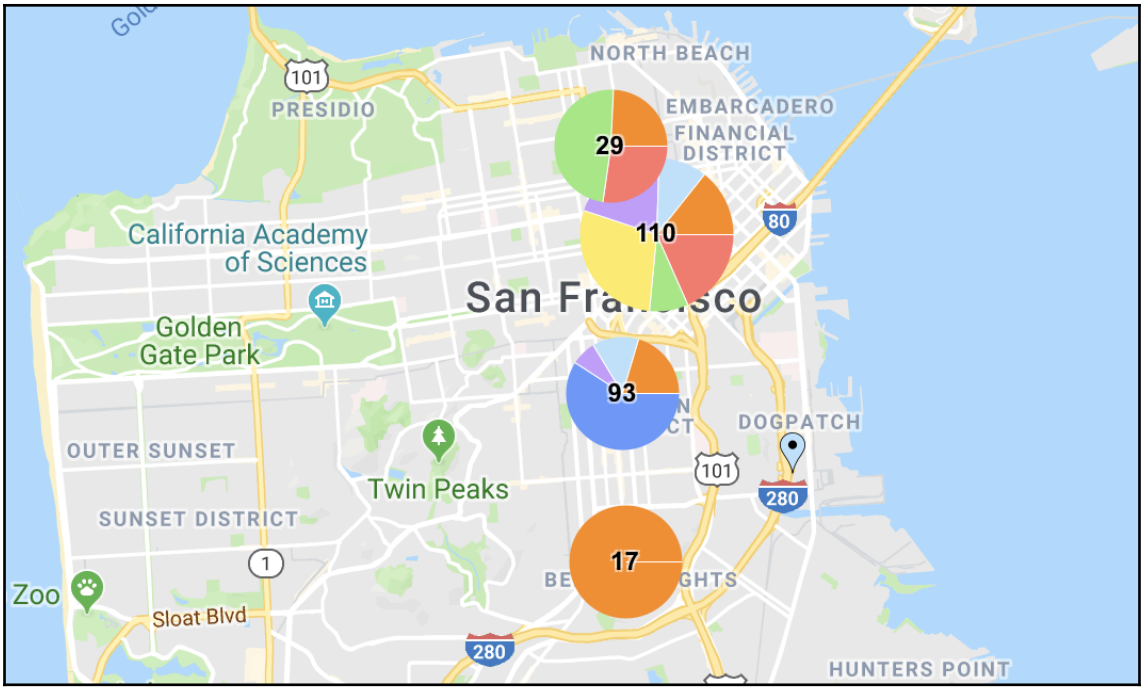


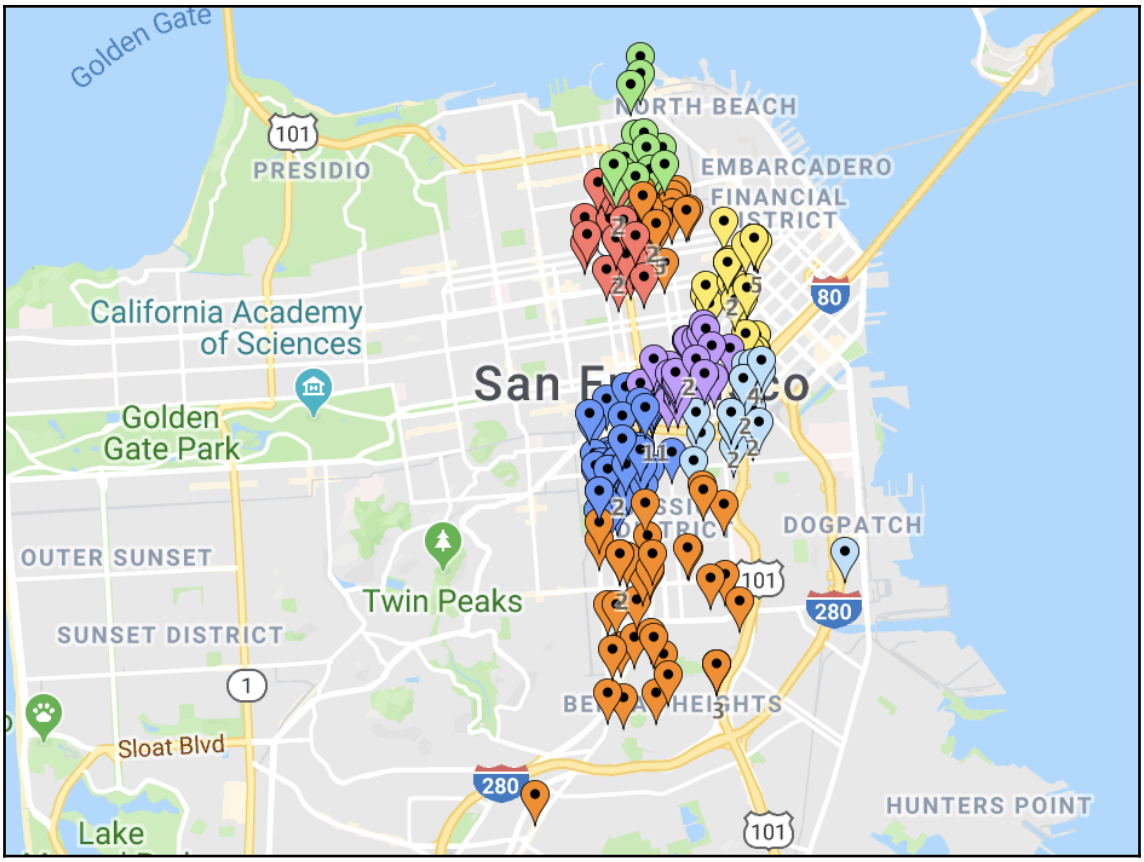
11964×7 DataFrame

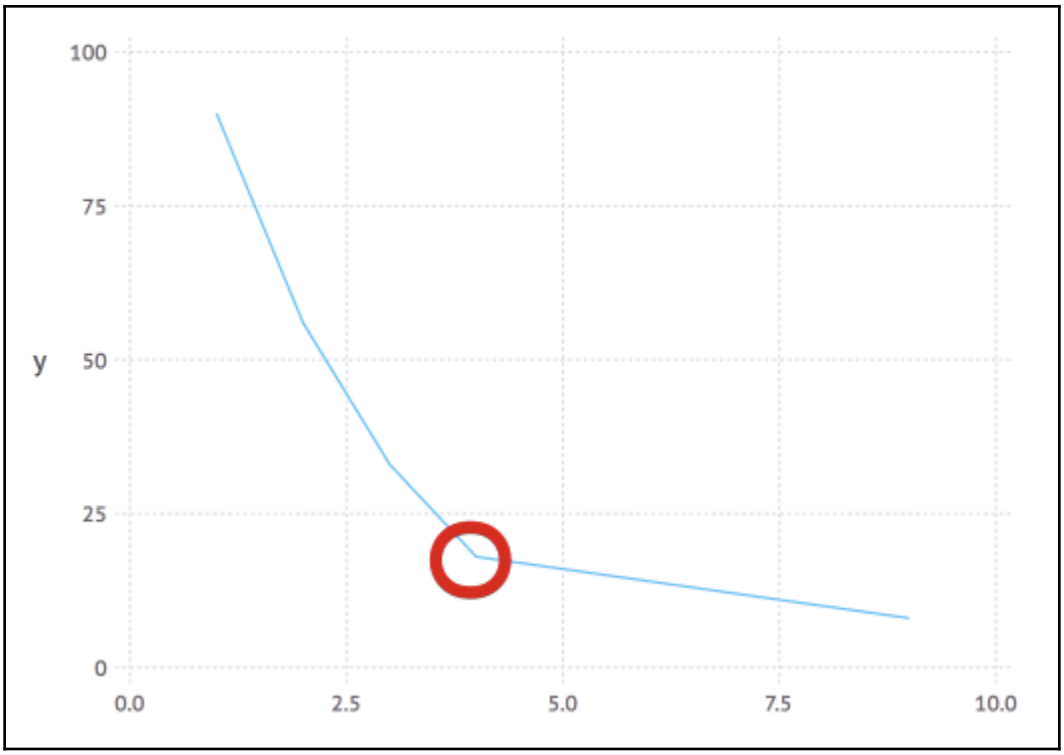
Row	Name Union{Missing, String}	Zip Int64⍰	Group String	Latitude Float64⍰	Longitude Float64⍰	City String	State String
1	Zaalouk Market & Deli Grocery	94109	Cluster 2	37.7877	-122.42	San Francisco	CA
2	1-11 Lilac St Apts	94110	Cluster 9	37.7519	-122.418	San Francisco	CA
3	Sunflower Restaurant	94103	Cluster 5	37.7649	-122.422	San Francisco	CA
4	Bay Music & Entertainment Inc	94109	Cluster 4	37.7957	-122.423	San Francisco	CA
5	Impark 0376	94109	Cluster 8	37.7891	-122.417	San Francisco	CA
6	Geologica Inc	94103	Cluster 6	37.7875	-122.403	San Francisco	CA
7	Impark 0315	94109	Cluster 2	37.7894	-122.422	San Francisco	CA
8	Impark 0324	94103	Cluster 6	37.7867	-122.405	San Francisco	CA
9	Impark 0370	94103	Cluster 6	37.7818	-122.405	San Francisco	CA
10	Impark 0377	94103	Cluster 6	37.787	-122.403	San Francisco	CA


Paste your location data below to map it:
Example Address
City
State
Zip
Name
Phone Number
Group
URL
1 Crossgates Mall Road
Albany
Example Group 1
http://www.apple.com/retail...
Duke Rd & Walden Ave
Buffalo
Example Group 2
http://www.apple.com/retail...
630 Old Country Rd.
Garden City
Example Group 3
http://www.apple.com/retail...
160 Walt Whitman Rd.
Huntington Station
NY
11746
Apple Store Walt Whitman
(631) 425-1563
Example Group 3
http://www.apple.com/retail...
click to copy/paste, or drop your file here
(Don't forget to include some header columns - You can also try our Spreadsheet Template (Excel), or hit "Map Now" and try it out with our example data.)
Validate & Set Options
Map Now


Paste your location data below to map it:
Name
Zip
Group
Latitude
Longitude
City
State
Zaalouk Market & Deli Grocery
94109
Cluster 2
37.78774
-122.420251
San Francisco
CA
1-11 Lilac St Apts
94110
Cluster 9
37.751929
-122.417839
San Francisco
CA
Sunflower Restaurant
94103
Cluster 5
37.764896
-122.422269
San Francisco
CA
Bay Music & Entertainment Inc
94109
Cluster 4
37.795667
-122.423479
San Francisco
CA
(Don't forget to include some header columns - You can also try our Spreadsheet Template (Excel), or hit "Map Now" and try it out with our example data.)
Validate & Set Options
Map Now


NORTH BEACH
PRESIDIO
EMBARCADERO
FINANCIAL
DISTRICT
29
110
80
California Academy
of Sciences
Golden
Gate Park
93
DOGPATCH
OUTER SUNSET
Twin Peaks
101
280
SUNSET DISTRICT
17
1
Zoo
Sloat Blvd
280
HUNTERS POINT

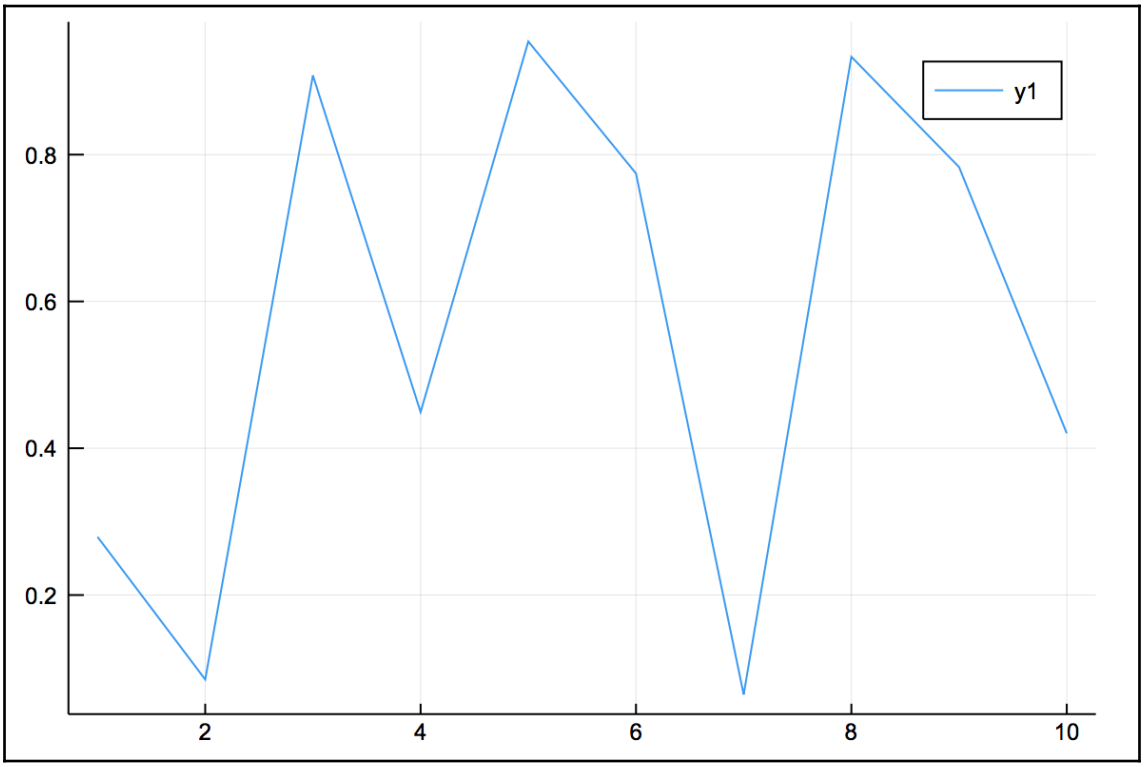

Golden Gate
101
PRESIDIO
NORTH BEACH
EMBARCADERO
FINANCIAL
80
California Academy
of Sciences
Golden
Gate Park
DOGPATCH
OUTER SUNSET
Twin Peaks
101
280
SUNSET DISTRICT
1
Sloat Blvd
280
101
HUNTERS POINT
Lake

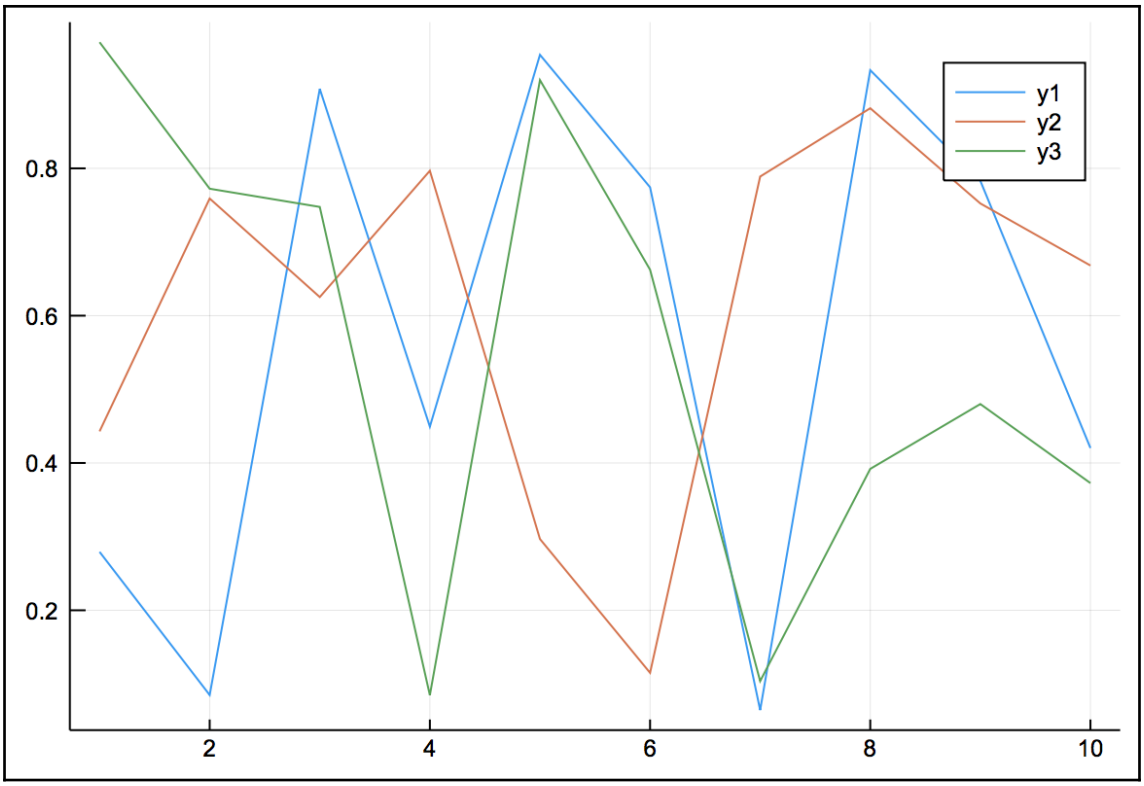

100
75
y
50
25
0
0.0
2.5
5.0
7.5
10.0

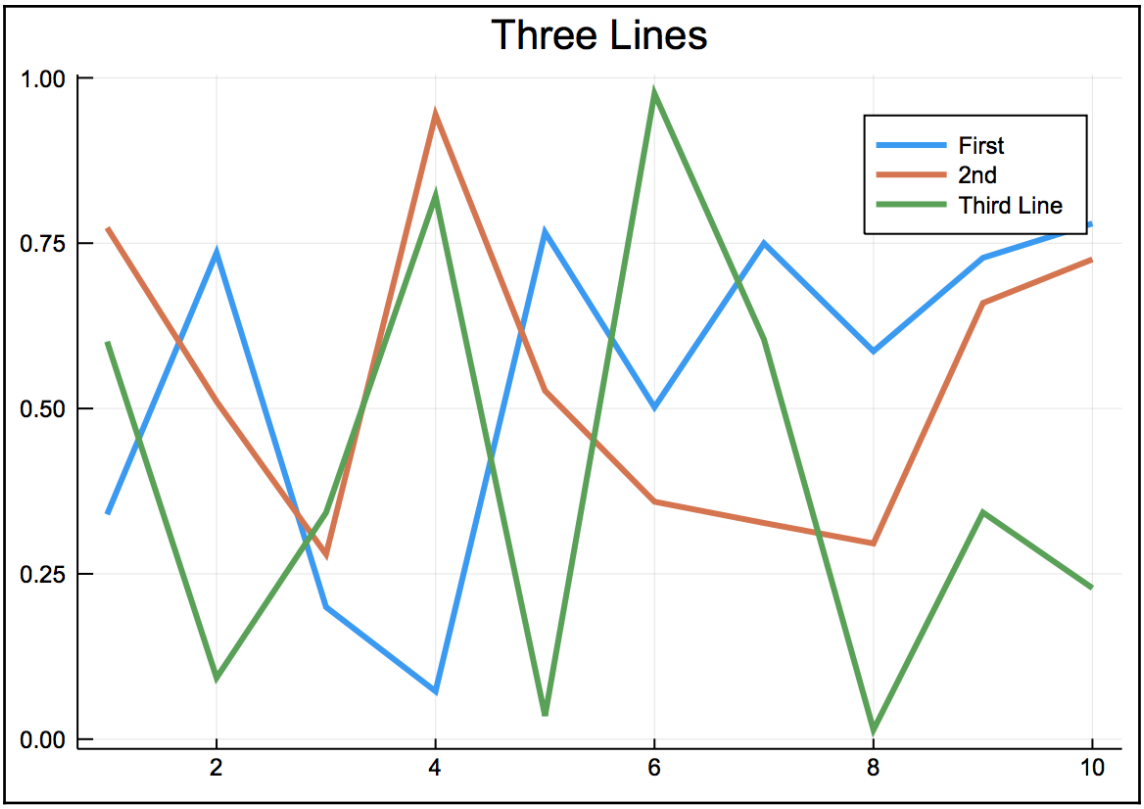
Chapter 9: Working with Dates, Times, and Time Series

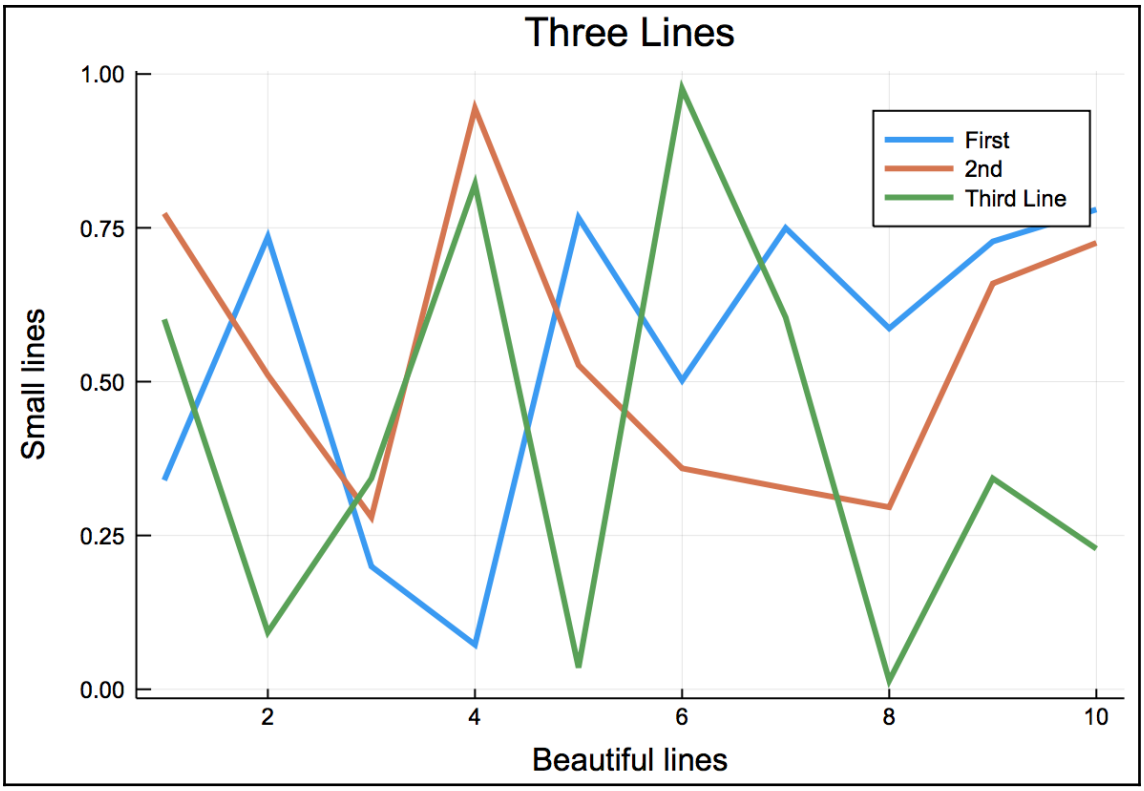
500×4 TimeArray{Float64,2,Date,Array{Float64,2}} 2000-01-03 to 2001-12-31

	Open	High	Low	Close
2000-01-03	104.88	112.5	101.69	111.94
2000-01-04	108.25	110.62	101.19	102.5
2000-01-05	103.75	110.56	103.0	104.0
2000-01-06	106.12	107.0	95.0	95.0
2000-01-07	96.5	101.0	95.5	99.5
2000-01-10	102.0	102.25	94.75	97.75
2000-01-11	95.94	99.38	90.5	92.75
2000-01-12	95.0	95.5	86.5	87.19

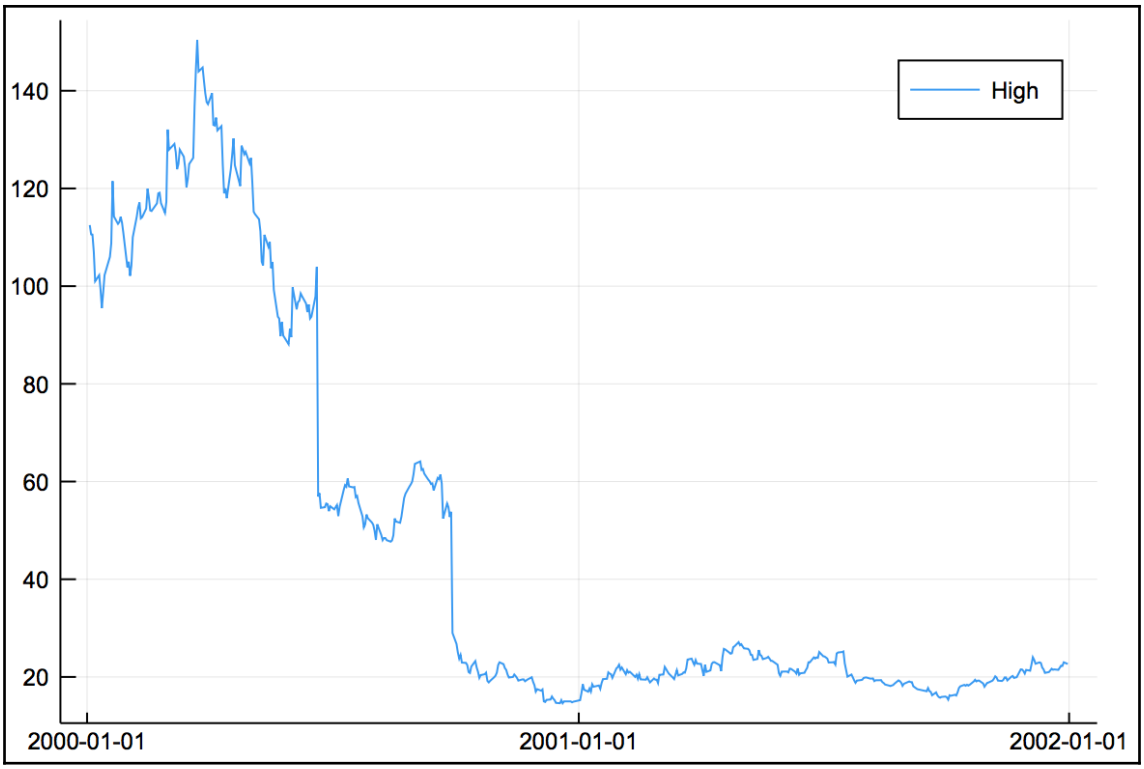



y1
y2
y3
0.8
0.6
0.4
0.2
2
4
6
8
10


Three Lines
1.00
0.75
0.50
0.25
0.00
2
4
6
8
10
First
2nd
Third Line


Three Lines
1.00
0.75
0.50
0.25
0.00
Small lines
2
4
6
8
10
Beautiful lines
First
2nd
Third Line


Open
High
Low
Close
140
120
100
80
60
40
20
2000-01-01
2001-01-01
2002-01-01


High
140
120
100
80
60
40
20
2000-01-01
2001-01-01
2002-01-01

	Open	High	Low	Close
2000-01-03	104.88	112.5	101.69	111.94
2000-01-04	108.25	110.62	101.19	102.5
2000-01-05	103.75	110.56	103.0	104.0
2000-01-06	106.12	107.0	95.0	95.0
2000-01-07	96.5	101.0	95.5	99.5
2000-01-10	102.0	102.25	94.75	97.75

```
500×4 Array{Float64,2}:
 104.88  112.5   101.69  111.94
 108.25  110.62  101.19  102.5
 103.75  110.56  103.0   104.0
 106.12  107.0    95.0    95.0
  96.5   101.0    95.5    99.5
```

6×4 TimeArray{Float64,2,Date,Array{Float64,2}} 2000-01-03 to 2000-01-10

	Open	High	Low	Close
2000-01-03	104.88	112.5	101.69	111.94
2000-01-04	108.25	110.62	101.19	102.5
2000-01-05	103.75	110.56	103.0	104.0
2000-01-06	106.12	107.0	95.0	95.0
2000-01-07	96.5	101.0	95.5	99.5
2000-01-10	102.0	102.25	94.75	97.75

	High
2000-01-03	112.5
2000-01-04	110.62
2000-01-05	110.56
2000-01-06	107.0

	High	Low
2000-01-03	112.5	101.69
2000-01-04	110.62	101.19
2000-01-05	110.56	103.0
2000-01-06	107.0	95.0

	Open	High	Low	Close
2000-03-22	132.78	144.38	131.56	144.19

	Open	High	Low	Close
2000-03-14	121.22	124.25	114.0	114.25
2000-03-15	115.62	120.25	114.12	116.25
2000-03-16	117.31	122.0	114.5	121.56
2000-03-17	120.12	125.0	119.62	125.0
2000-03-20	123.5	126.25	122.38	123.0
2000-03-21	122.56	136.75	121.62	134.94
2000-03-22	132.78	144.38	131.56	144.19
2000-03-23	142.0	150.38	140.0	141.31
2000-03-24	142.44	143.94	135.5	138.69
2000-03-27	137.62	144.75	136.88	139.56
2000-03-28	137.25	142.0	137.12	139.12

	Open	High	Low	Close
2000-01-11	95.94	99.38	90.5	92.75
2000-01-21	114.25	114.25	110.19	111.31
2000-02-01	104.0	105.0	100.0	100.25
2000-02-10	112.88	113.88	110.0	113.5
2000-02-22	110.12	116.94	106.69	113.81
2000-03-02	127.0	127.94	120.69	122.0
2000-03-13	122.12	126.5	119.5	121.31
2000-03-20	123.5	126.25	122.38	123.0
2000-03-21	122.56	136.75	121.62	134.94
2000-03-22	132.78	144.38	131.56	144.19
2000-03-23	142.0	150.38	140.0	141.31
2000-03-31	127.44	137.25	126.0	135.81
2000-04-11	123.5	124.88	118.06	119.44

	Open	High	Low	Close
2000-03-22	132.78	144.38	131.56	144.19

	Open	High	Low	Close
2000-03-20	123.5	126.25	122.38	123.0
2000-03-21	122.56	136.75	121.62	134.94
2000-03-22	132.78	144.38	131.56	144.19
2000-03-23	142.0	150.38	140.0	141.31

	High	Low
2000-03-20	126.25	122.38
2000-03-21	136.75	121.62
2000-03-22	144.38	131.56
2000-03-23	150.38	140.0
2000-03-24	143.94	135.5

	Open	High	Low	Close
2000-03-22	132.78	144.38	131.56	144.19
2000-03-23	142.0	150.38	140.0	141.31
2000-03-24	142.44	143.94	135.5	138.69
2000-03-27	137.62	144.75	136.88	139.56
2000-03-28	137.25	142.0	137.12	139.12

	V1
2018-11-08	0.9199
2018-11-09	0.2914
2018-11-10	0.3226
2018-11-11	0.7523
2018-11-12	0.1259
2018-11-13	0.4498
2018-11-14	0.9366
2018-11-15	0.1943

	V2
2018-11-08	0.8039
2018-11-09	0.0753
2018-11-10	0.3964
2018-11-11	0.4068
2018-11-12	0.9322
2018-11-13	0.9196
2018-11-14	0.6745
2018-11-15	0.5368
2018-11-16	0.8061
2018-11-17	0.8796
2018-11-18	0.5846

	V1	V2
2018-11-08	0.9199	0.8039
2018-11-09	0.2914	0.0753
2018-11-10	0.3226	0.3964
2018-11-11	0.7523	0.4068
2018-11-12	0.1259	0.9322
2018-11-13	0.4498	0.9196
2018-11-14	0.9366	0.6745
2018-11-15	0.1943	0.5368

	V1	V2
2018-11-08	0.9199	0.8039
2018-11-09	0.2914	0.0753
2018-11-10	0.3226	0.3964
2018-11-11	0.7523	0.4068
2018-11-12	0.1259	0.9322
2018-11-13	0.4498	0.9196
2018-11-14	0.9366	0.6745
2018-11-15	0.1943	0.5368
2018-11-16	NaN	0.8061
2018-11-17	NaN	0.8796
2018-11-18	NaN	0.5846

	V1
2018-11-22	0.9044
2018-11-23	0.7665
2018-11-24	0.3149
2018-11-25	0.2854
2018-11-26	0.109
2018-11-27	0.324
2018-11-28	0.7132
2018-11-29	0.7046

	V1
2018-11-08	0.9199
2018-11-09	0.2914
2018-11-10	0.3226
2018-11-11	0.7523
2018-11-12	0.1259
2018-11-13	0.4498
2018-11-14	0.9366
2018-11-15	0.1943
2018-11-22	0.9044
2018-11-23	0.7665
2018-11-24	0.3149
2018-11-25	0.2854
2018-11-26	0.109
2018-11-27	0.324
2018-11-28	0.7132
2018-11-29	0.7046

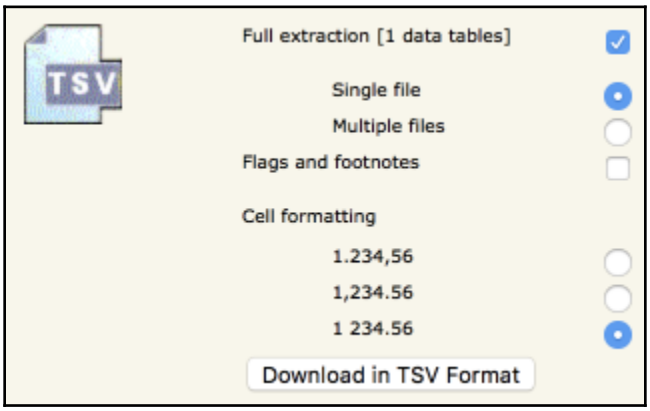
	values
2018-01-01	0.2241
2018-01-02	0.0431
2018-01-03	0.6478
2018-01-04	0.5862
2018-01-05	0.3729
2018-01-06	0.2994
2018-01-07	0.8512
2018-01-08	0.8587
2018-01-09	0.4847
2018-01-10	0.9509
2018-01-11	0.5016
2018-01-12	0.7146
2018-01-13	0.5238
2018-01-14	0.2815
2018-01-15	0.6264
2018-01-16	0.002
2018-01-17	0.895
2018-01-18	0.9428
2018-01-19	0.8887
2018-01-20	0.1303
2018-01-21	0.9959
2018-01-22	0.6023
2018-01-23	0.8203
2018-01-24	0.1072
2018-01-25	0.6632
2018-01-26	0.1004
2018-01-27	0.9838
2018-01-28	0.4962
2018-01-29	0.0499
2018-01-30	0.6711
2018-01-31	0.7284

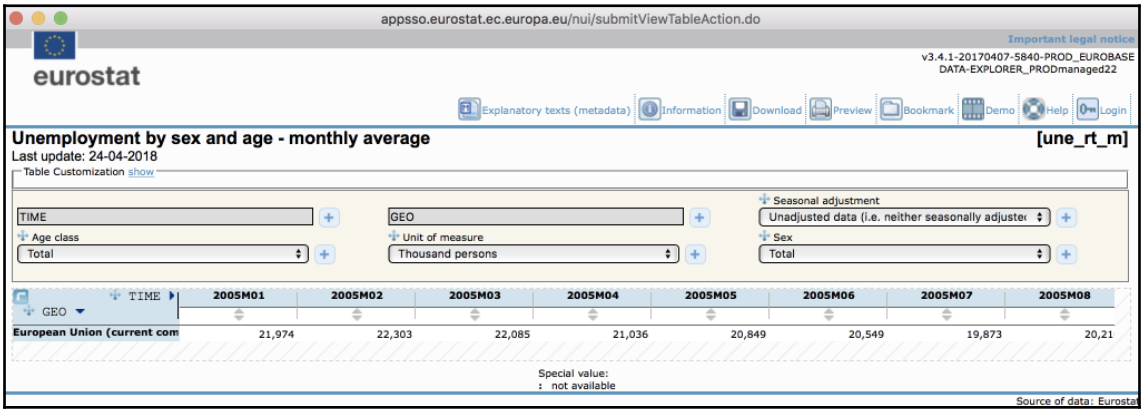
	values
2018-01-07	0.4321
2018-01-14	0.6165
2018-01-21	0.6401
2018-01-28	0.5391
2018-01-31	0.4831

	values
2018-01-01	0.2241
2018-01-08	0.8587
2018-01-15	0.6264
2018-01-22	0.6023
2018-01-29	0.0499

	values
2019-01-01	0.2241
2019-01-02	0.0431
2019-01-03	0.6478
2019-01-04	0.5862
2019-01-05	0.3729
2019-01-06	0.2994
2019-01-07	0.8512

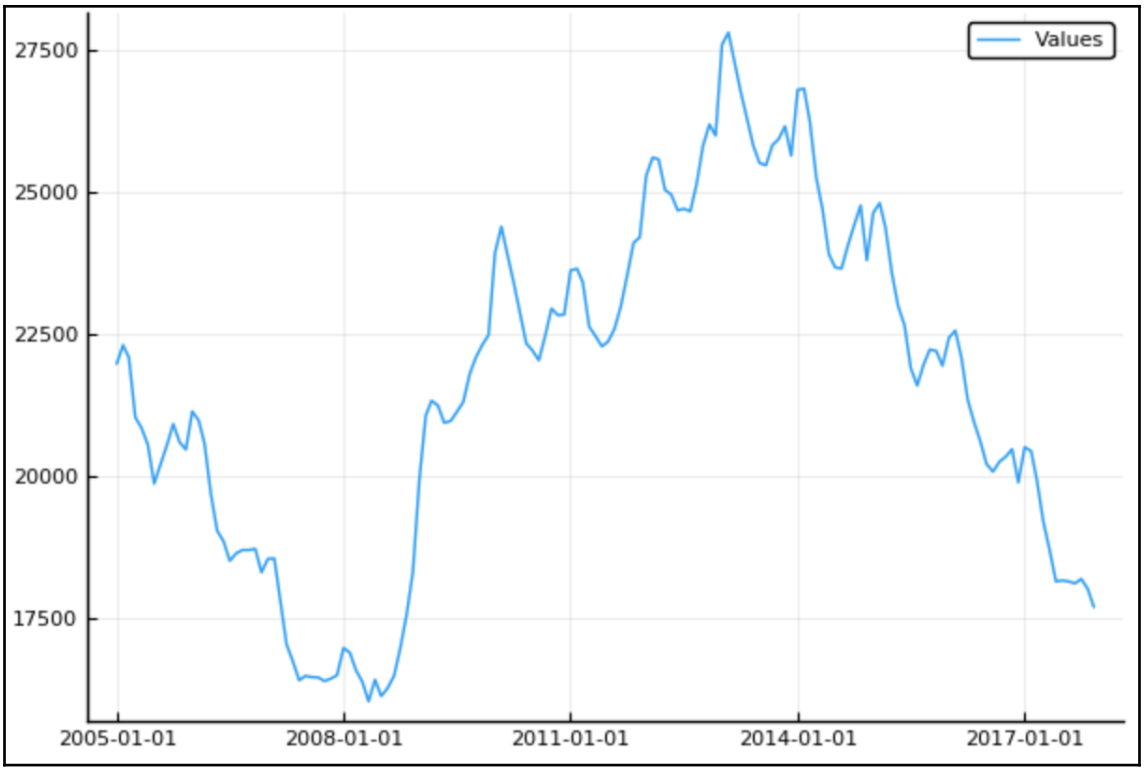
Chapter 10: Time Series Forecasting

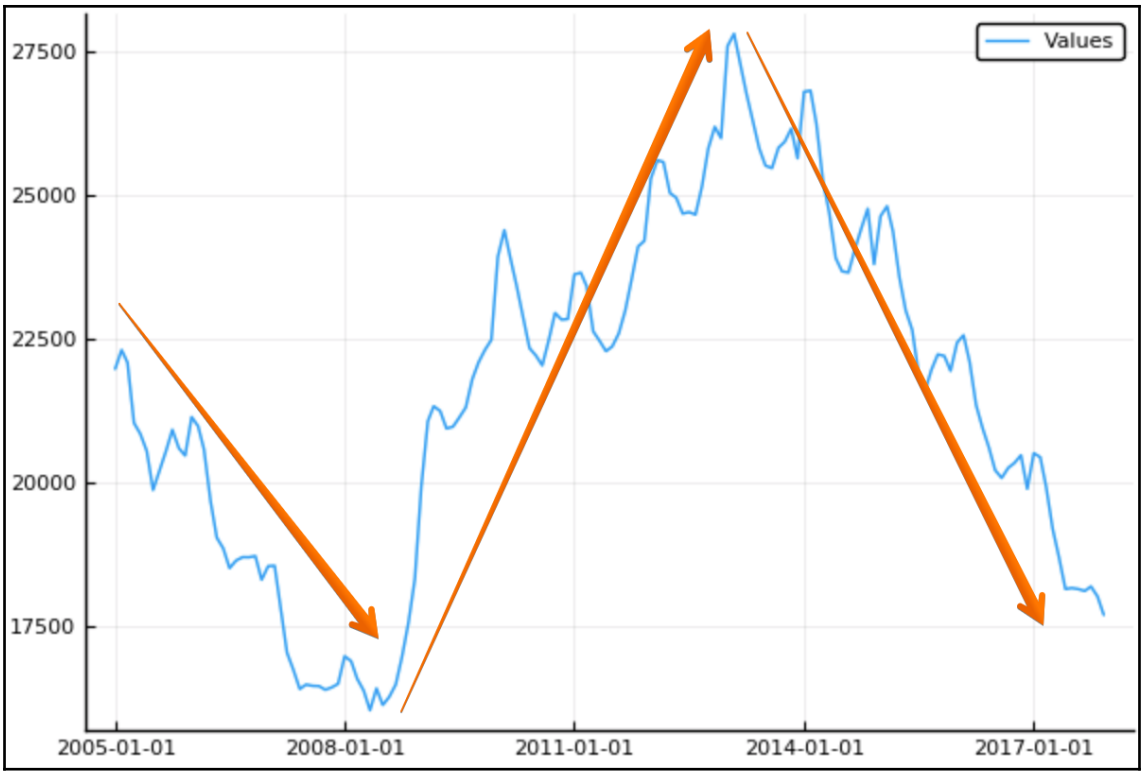


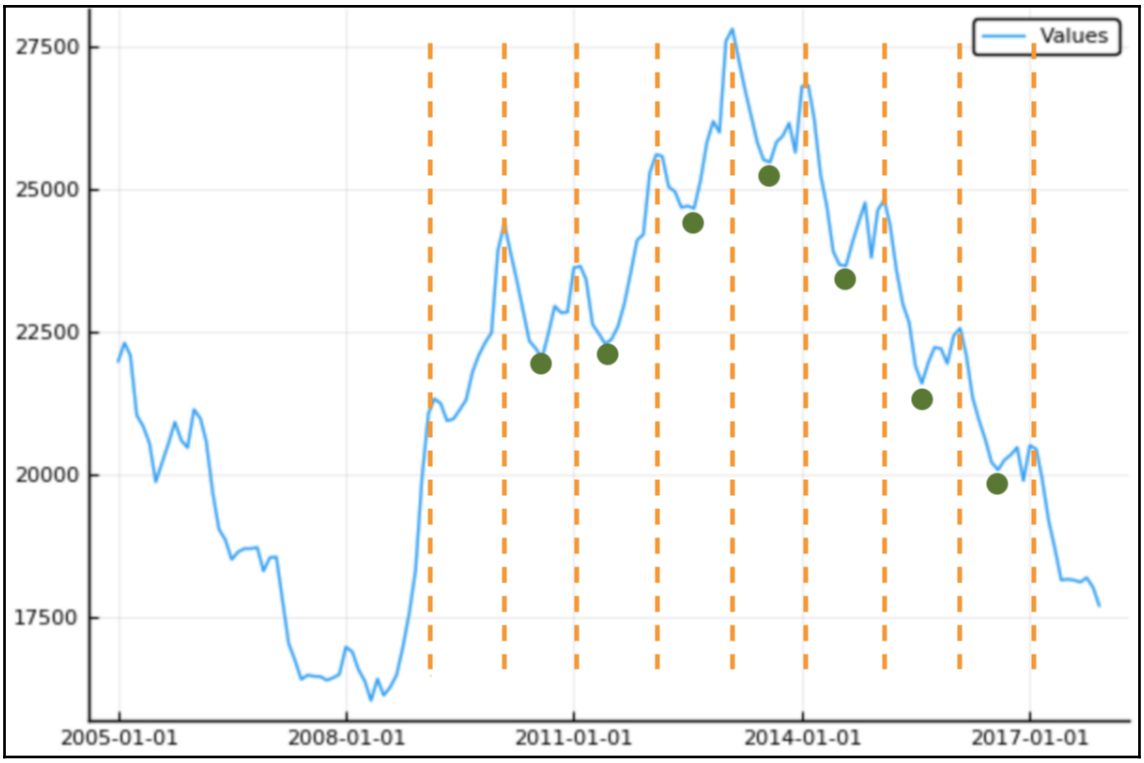


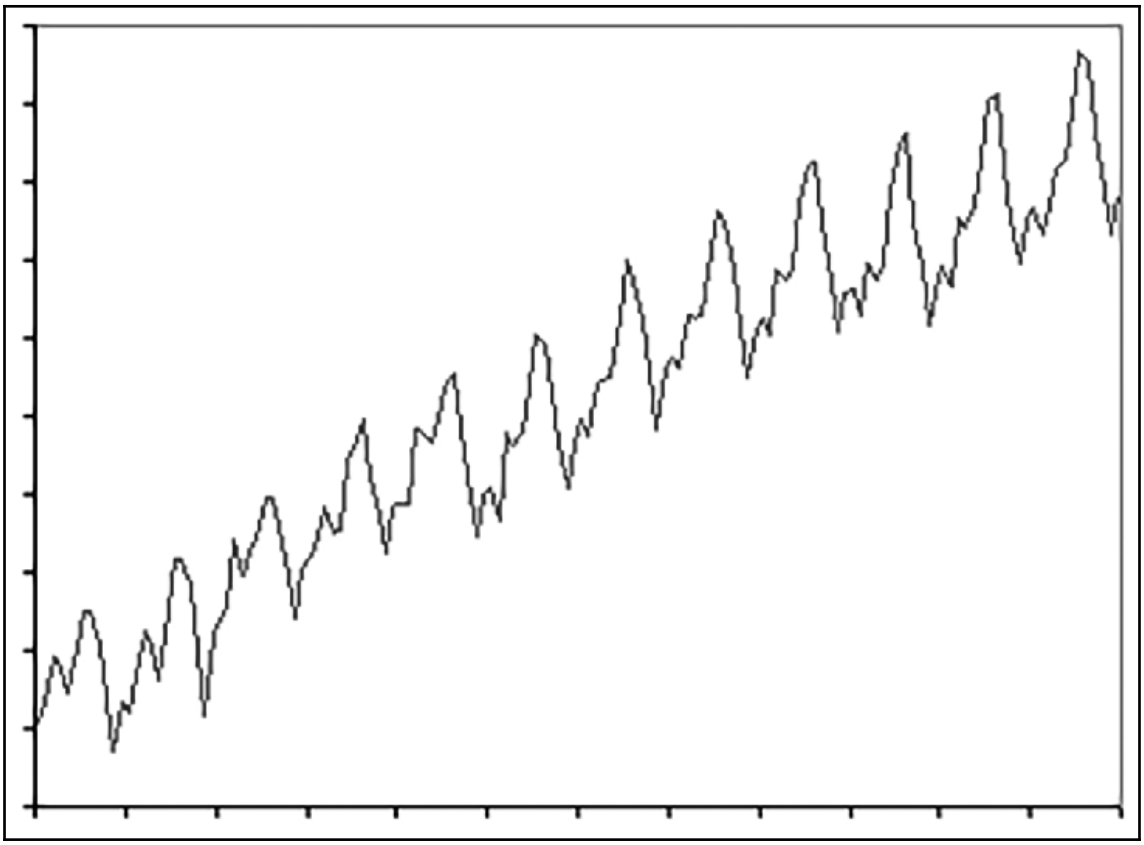
	GEO,S_ADJ,AGE,UNIT,SEX\TIME	2005M01	2005M02	2005M03	2005M04	2005M05	2005M06	2005M07	2005M08	2005M09	2005M10	2005M11	2005M12
		String	String	String	String	String	String	String	String	String	String	String	String
1	European Union (current composition),Unadjusted data (i.e. neither seasonally adjusted nor calendar adjusted data),Total,Thousand persons,Total	21 974	22 303	22 085	21 036	20 849	20 549	19 873	20 210	20 554	20 919	20 599	20 470

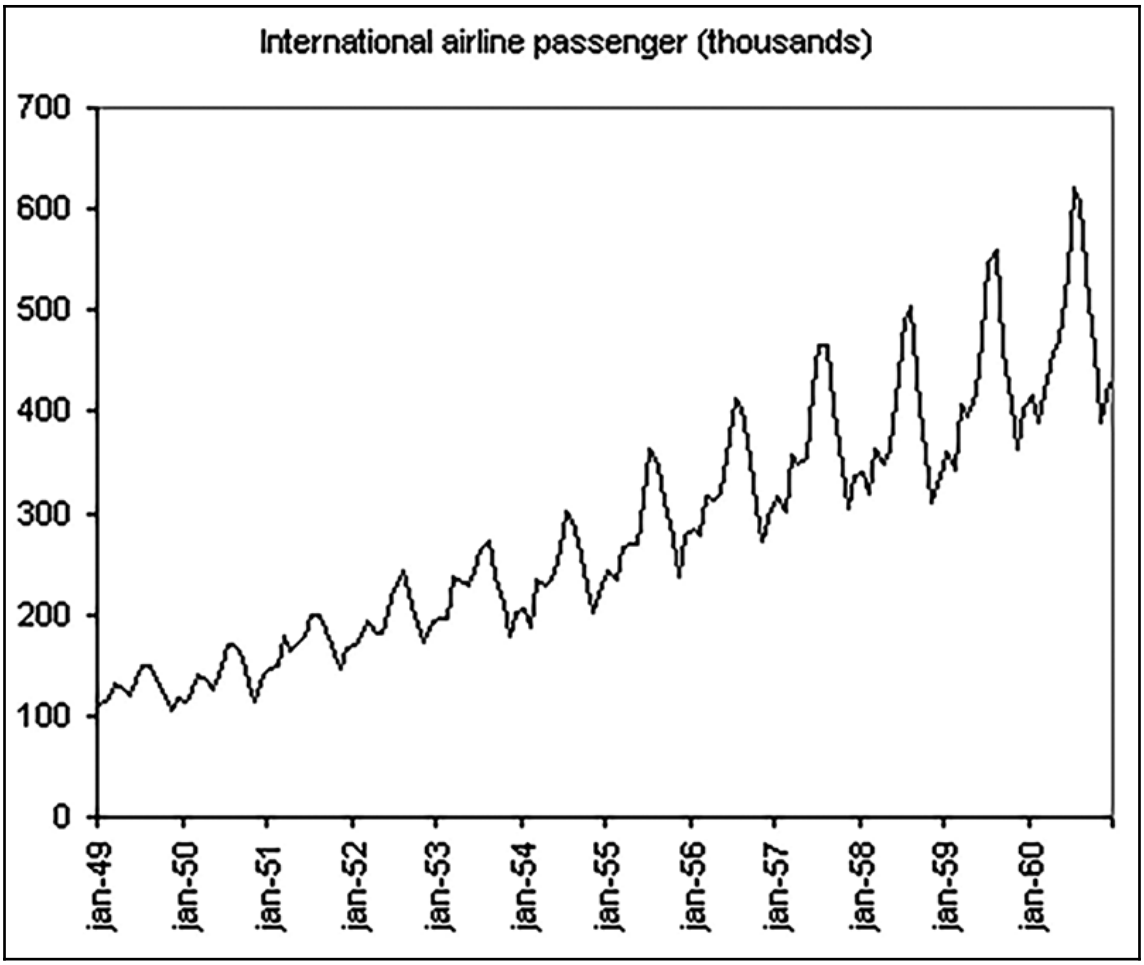
	Values
2005-01-01	21974.0
2005-02-01	22303.0
2005-03-01	22085.0
2005-04-01	21036.0
2005-05-01	20849.0
2005-06-01	20549.0
2005-07-01	19873.0
2005-08-01	20210.0
2005-09-01	20554.0
2005-10-01	20919.0

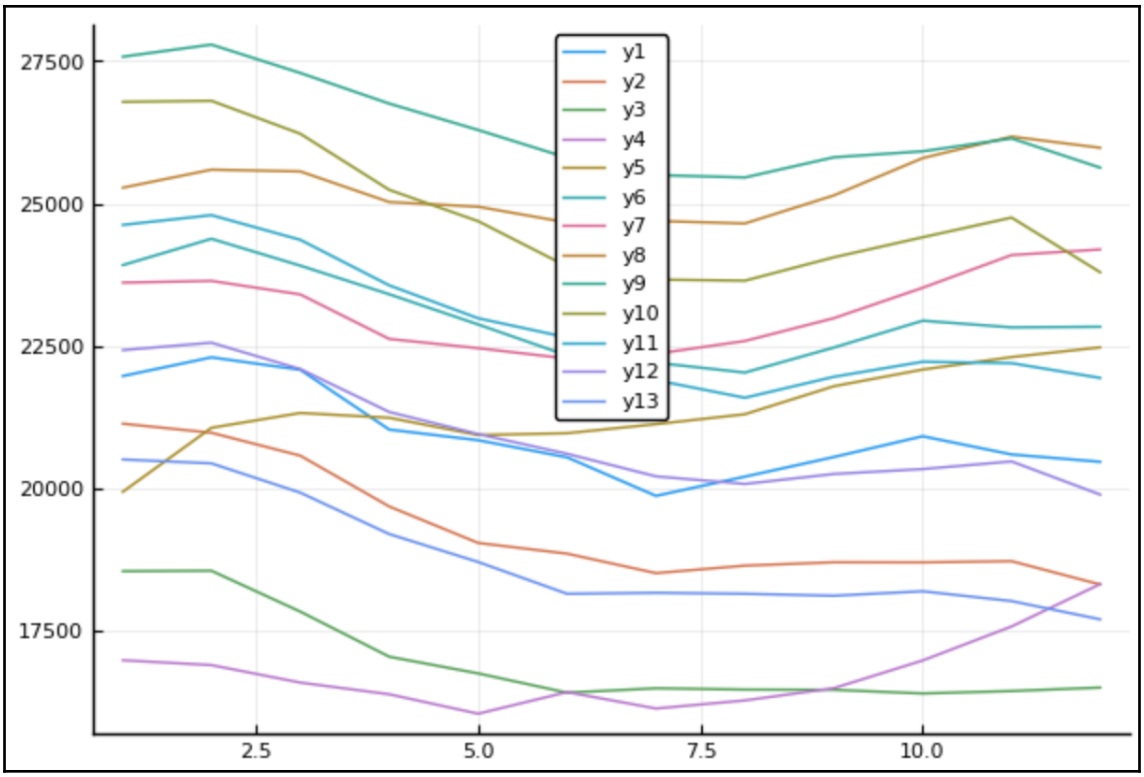

Values
27500
25000
22500
20000
17500
2005-01-01
2008-01-01
2011-01-01
2014-01-01
2017-01-01


Values
27500
25000
22500
20000
17500
2005-01-01
2008-01-01
2011-01-01
2014-01-01
2017-01-01


Values
27500
25000
22500
20000
17500
2005-01-01
2008-01-01
2011-01-01
2014-01-01
2017-01-01

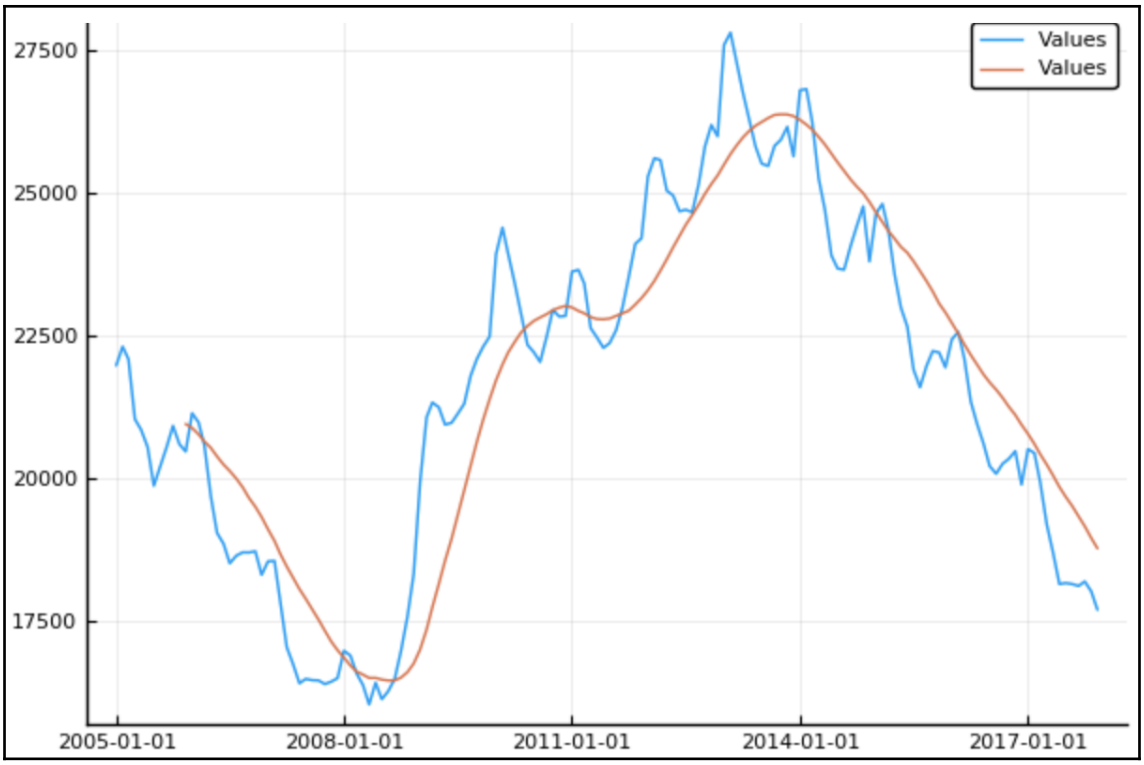



International airline passenger (thousands)
700
600
500
400
300
200
100
0
jan-49
jan-50
jan-51
jan-52
jan-53
jan-54
jan-55
jan-56
jan-57
jan-58
jan-59
jan-60

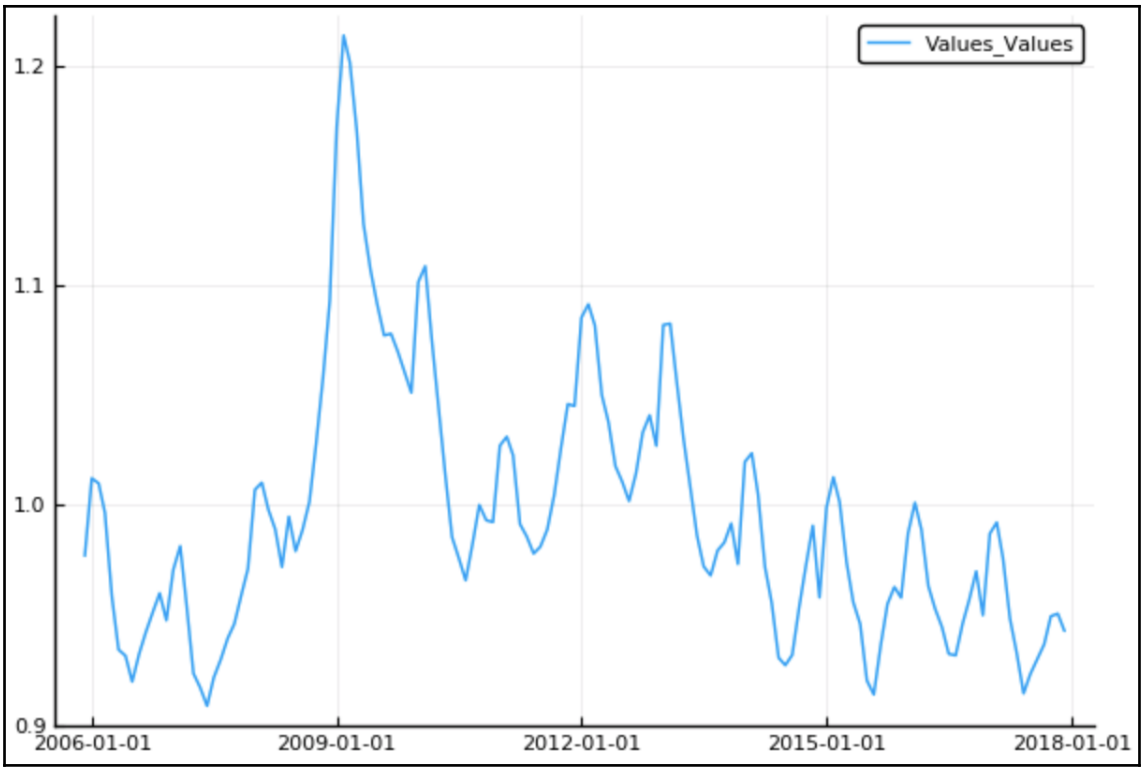


	Values
2005-12-01	20951.75
2006-01-01	20882.25
2006-02-01	20772.0
2006-03-01	20646.4167
2006-04-01	20534.0

	Values
2005-01-01	NaN
2005-02-01	NaN
2005-03-01	NaN
2005-04-01	NaN
2005-05-01	NaN
2005-06-01	NaN
2005-07-01	NaN
2005-08-01	NaN
2005-09-01	NaN
2005-10-01	NaN
2005-11-01	NaN
2005-12-01	20951.75
2006-01-01	20882.25
2006-02-01	20772.0
2006-03-01	20646.4167
2006-04-01	20534.0



	Values_Values
2005-12-01	0.977
2006-01-01	1.0123
2006-02-01	1.01
2006-03-01	0.9967
2006-04-01	0.9588
2006-05-01	0.9344



	Values
2005-01-01	21091.4818
2005-02-01	21223.4656
2005-03-01	21353.0066
2005-04-01	20920.3252
2005-05-01	21123.5518

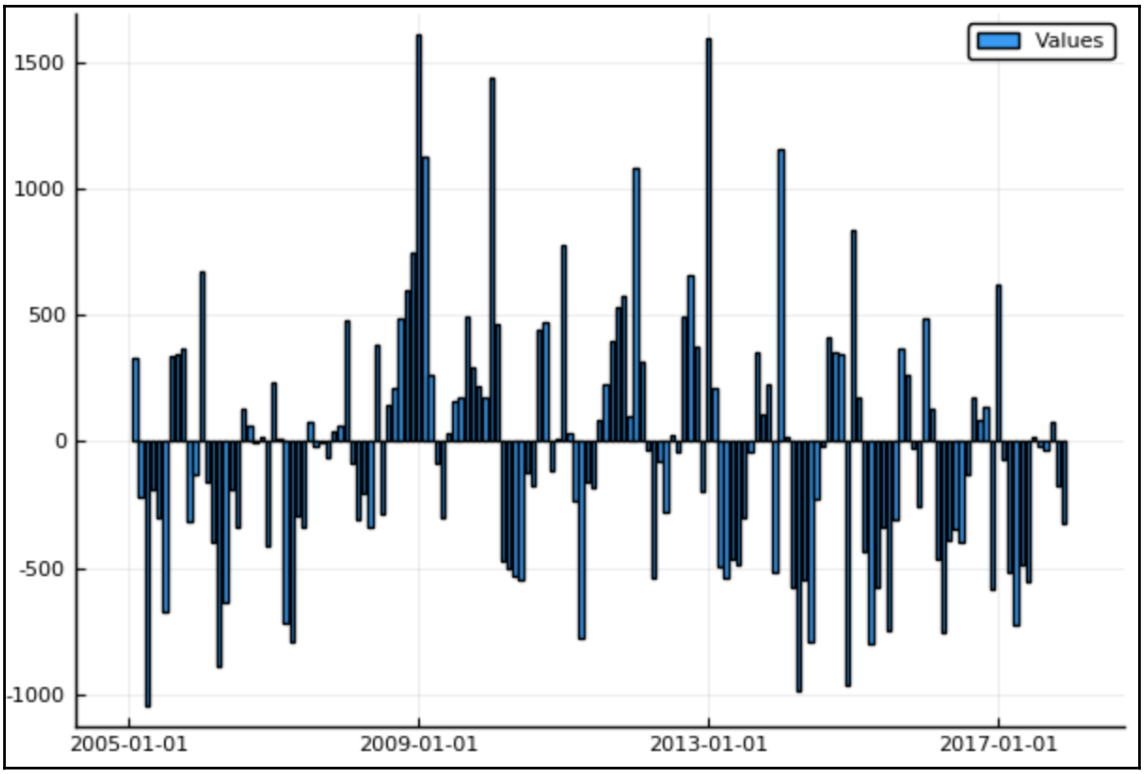
	A
2018-11-06	0.3903
2018-11-07	0.5231
2018-11-08	0.104
2018-11-09	0.5523
2018-11-10	0.5699
2018-11-11	0.4076
2018-11-12	0.4027
2018-11-13	0.4274

	A
2018-11-06	0.2467
2018-11-07	0.3953
2018-11-08	0.018
2018-11-09	0.7987
2018-11-10	0.729
2018-11-11	0.2403
2018-11-12	0.465
2018-11-13	0.7496

	A_A
2018-11-06	true
2018-11-07	true
2018-11-08	true
2018-11-09	false
2018-11-10	false
2018-11-11	true
2018-11-12	false
2018-11-13	false

	A_A
2018-11-06	false
2018-11-07	false
2018-11-08	false
2018-11-09	true
2018-11-10	true
2018-11-11	false
2018-11-12	true
2018-11-13	true

	Values
2005-02-01	329.0
2005-03-01	-218.0
2005-04-01	-1049.0
2005-05-01	-187.0
2005-06-01	-300.0
2005-07-01	-676.0

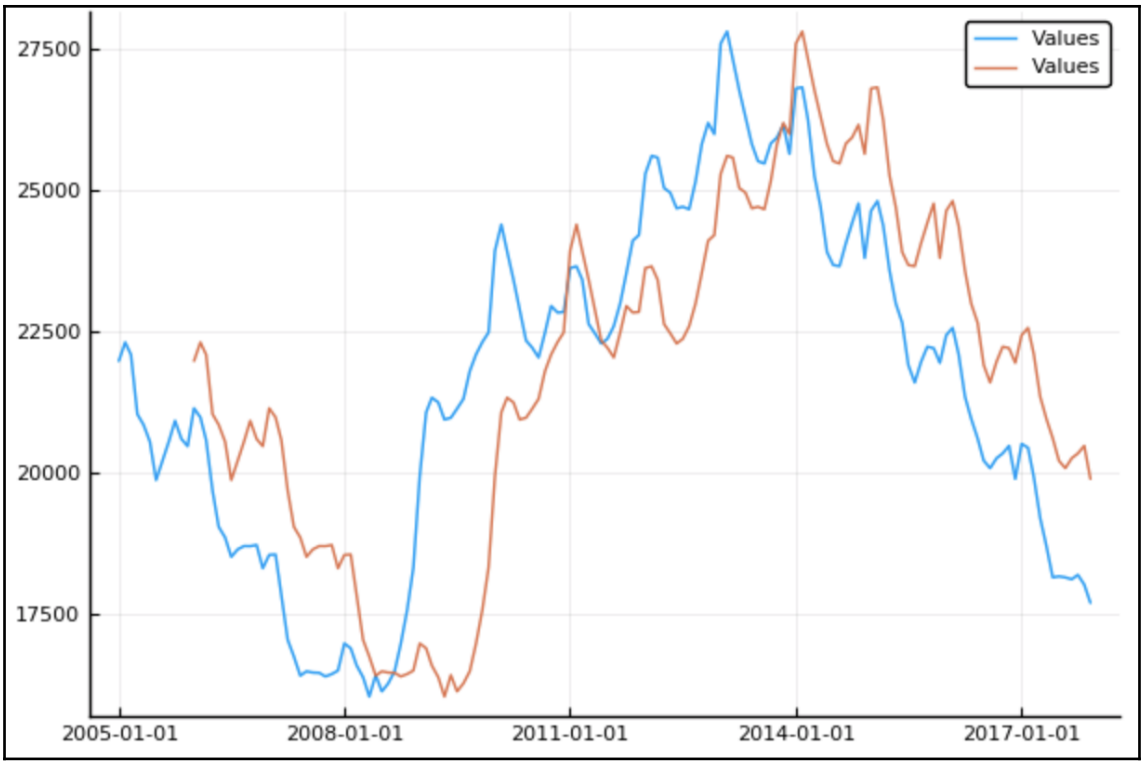


	A
2018-11-06	0.3903
2018-11-07	0.5231
2018-11-08	0.104
2018-11-09	0.5523
2018-11-10	0.5699
2018-11-11	0.4076
2018-11-12	0.4027
2018-11-13	0.4274

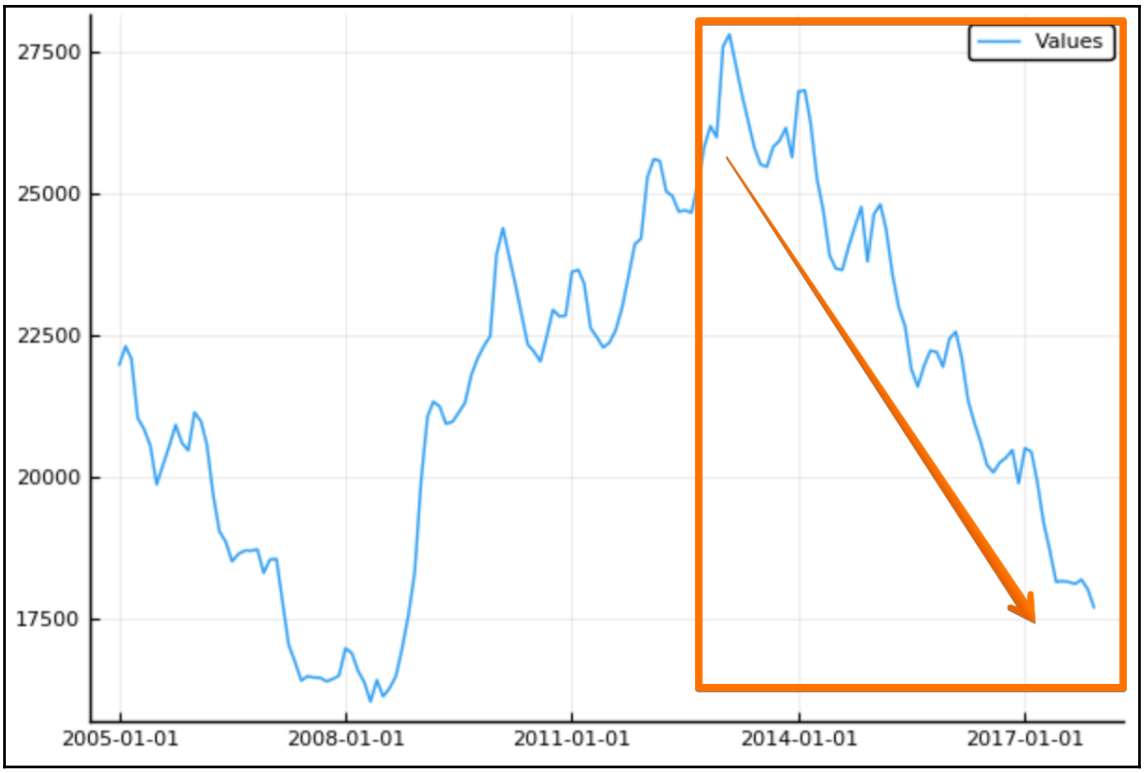
	A
2018-11-07	0.3903
2018-11-08	0.5231
2018-11-09	0.104
2018-11-10	0.5523
2018-11-11	0.5699
2018-11-12	0.4076
2018-11-13	0.4027

	Values
2006-01-01	21974.0
2006-02-01	22303.0
2006-03-01	22085.0
2006-04-01	21036.0
2006-05-01	20849.0

	Values	Values_1
2006-01-01	21140.0	21974.0
2006-02-01	20980.0	22303.0
2006-03-01	20578.0	22085.0
2006-04-01	19687.0	21036.0
2006-05-01	19047.0	20849.0
2006-06-01	18859.0	20549.0

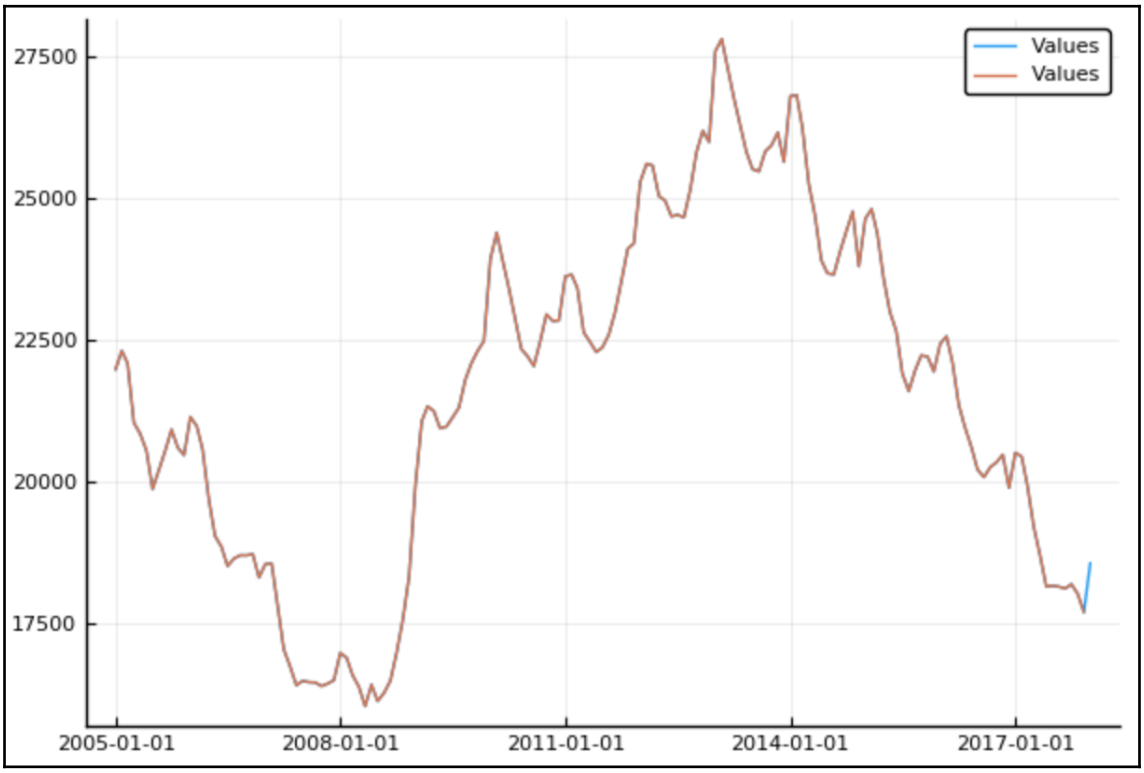


2017-07-01	18172.0
2017-08-01	18155.0
2017-09-01	18121.0
2017-10-01	18199.0
2017-11-01	18027.0
2017-12-01	17705.0
2018-01-01	18446.0

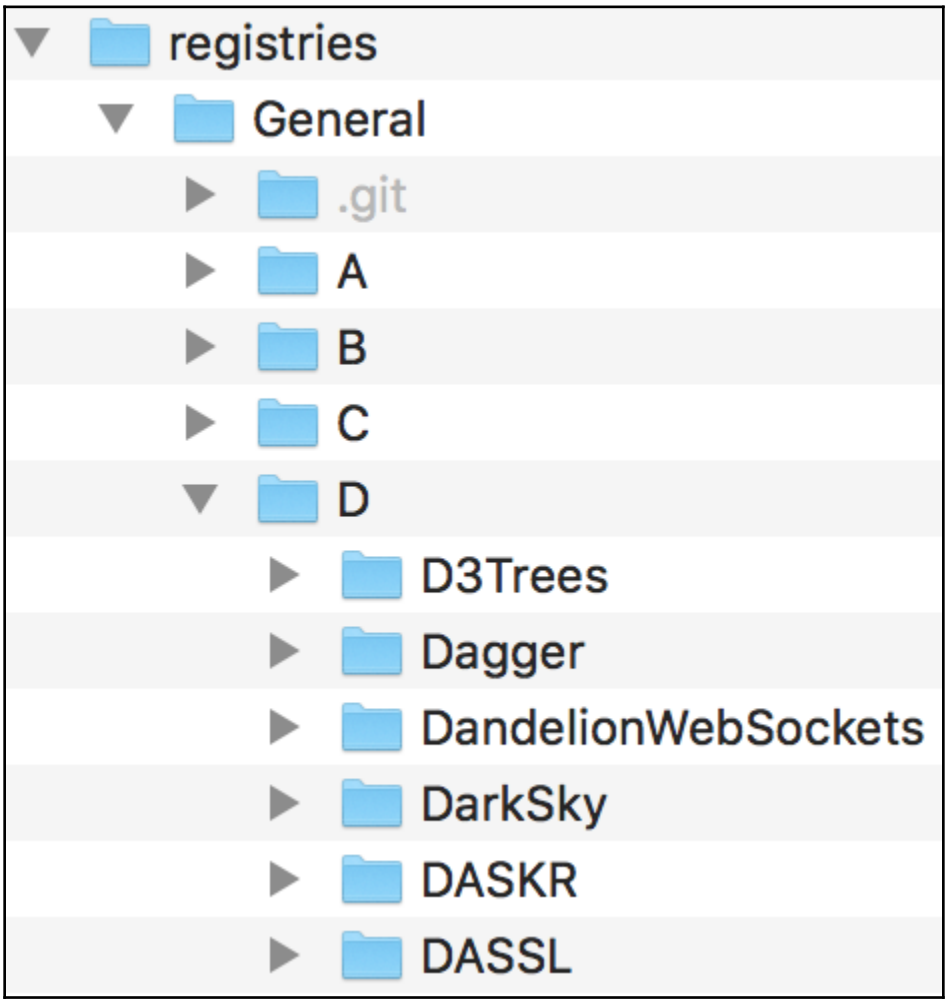


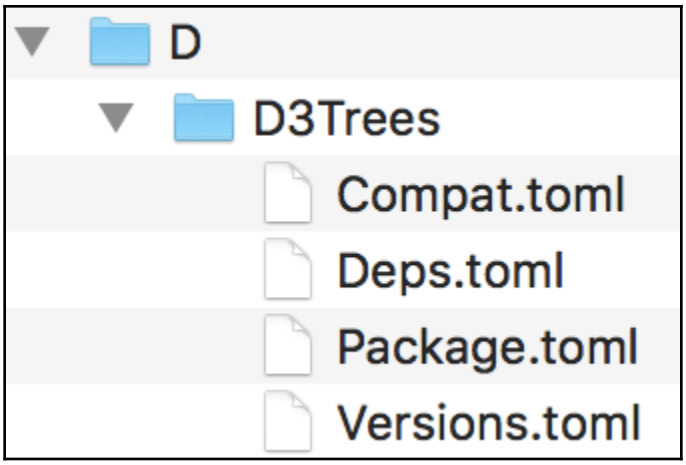
	Values
2013-02-01	27790.0

	Values
2013-02-01	27790.0
2013-03-01	27292.0
2013-04-01	26755.0
2013-05-01	26292.0
2013-06-01	25805.0
2013-07-01	25501.0

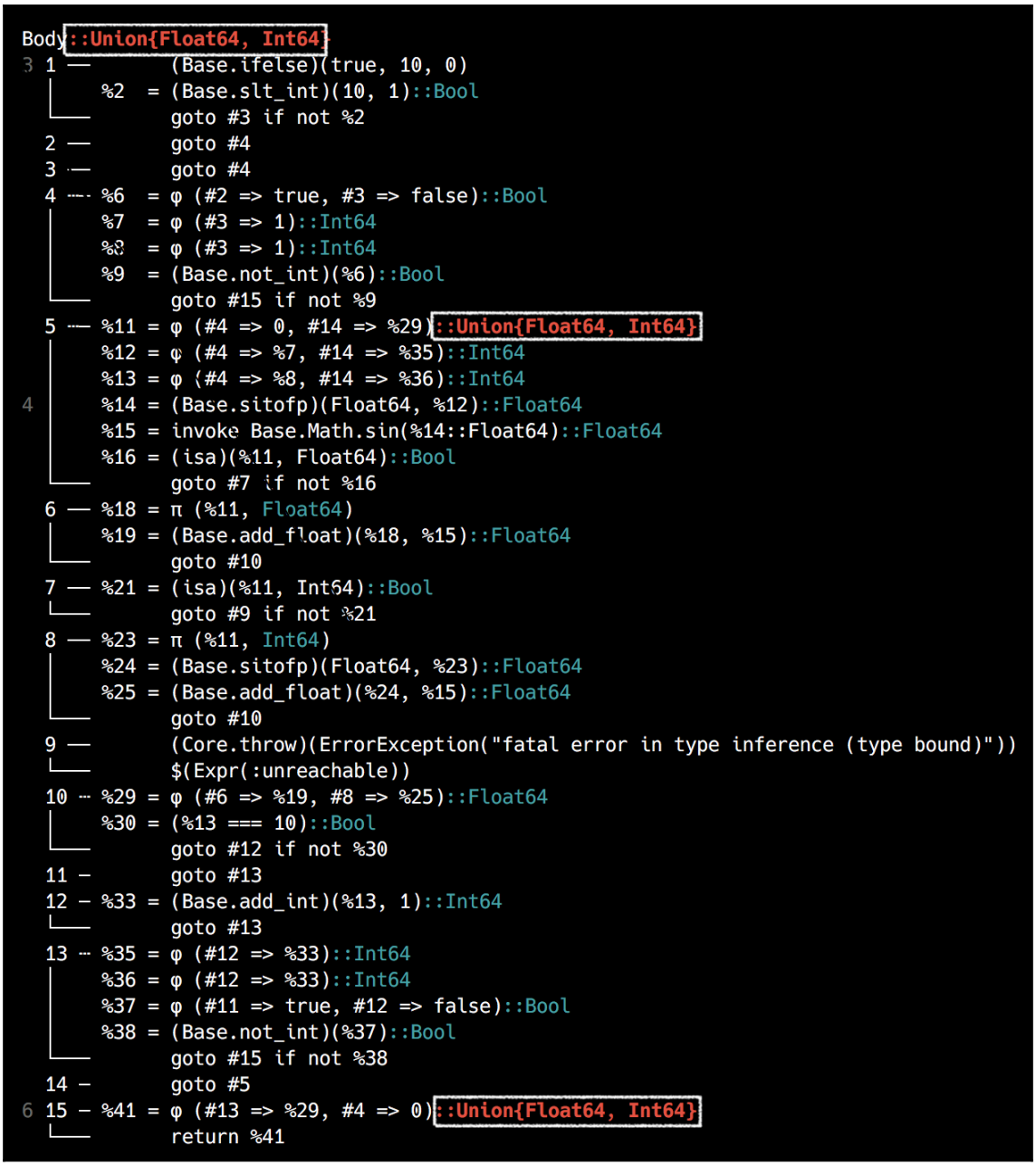


Chapter 11: Creating Julia Packages



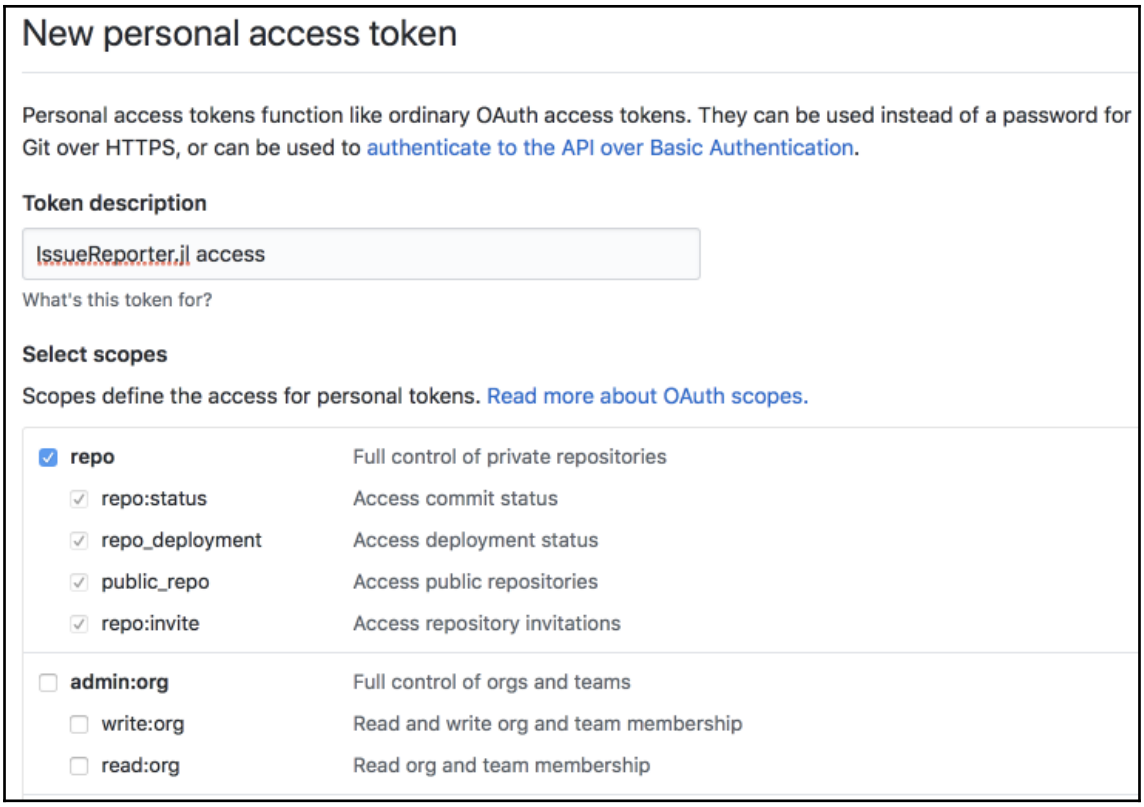


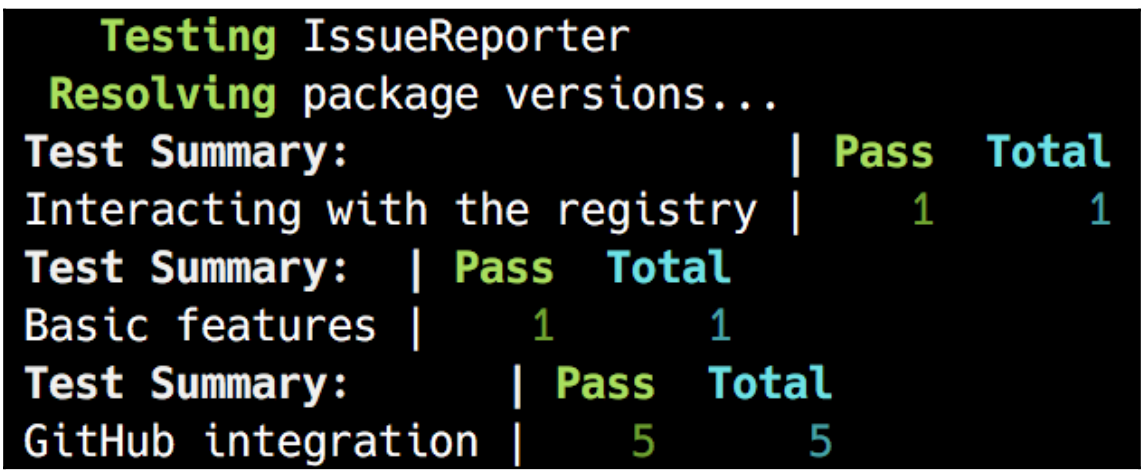

```
   Testing IssueReporter
 Resolving package versions...
Test Summary:                    |
Interacting with the registry | No tests
Test Summary:  | Pass  Total
Basic features |    1      1
   Testing IssueReporter tests passed
```

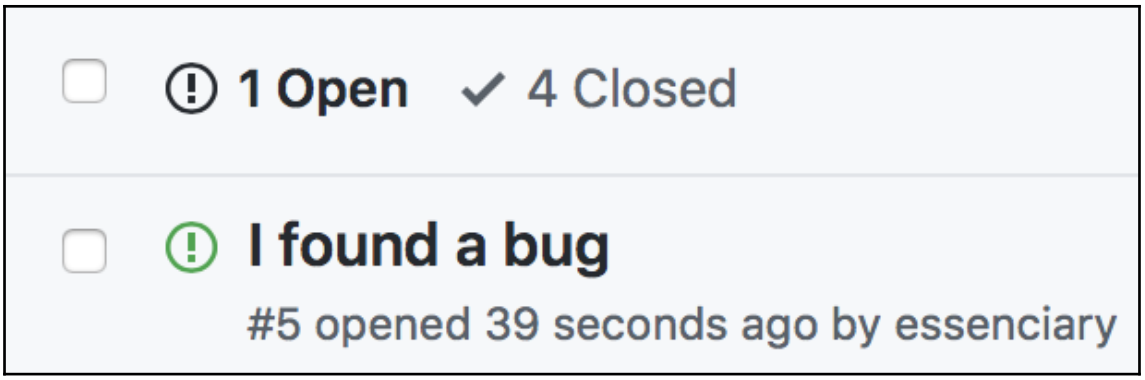

Body::Union{Float64, Int64}
1 (Base.ifelse)(true, 10, 0)
%2 = (Base.slt_int)(10, 1)::Bool
goto #3 if not %2
2 goto #4
3 goto #4
4 %6 = φ (#2 => true, #3 => false)::Bool
%7 = φ (#3 => 1)::Int64
%8 = φ (#3 => 1)::Int64
%9 = (Base.not_int)(%6)::Bool
goto #15 if not %9
5 %11 = φ (#4 => 0, #14 => %29)::Union{Float64, Int64}
%12 = φ (#4 => %7, #14 => %35)::Int64
%13 = φ (#4 => %8, #14 => %36)::Int64
%14 = (Base.sitofp)(Float64, %12)::Float64
%15 = invoke Base.Math.sin(%14::Float64)::Float64
%16 = (isa)(%11, Float64)::Bool
goto #7 if not %16
6 %18 = π (%11, Float64)
%19 = (Base.add_float)(%18, %15)::Float64
goto #10
7 %21 = (isa)(%11, Int64)::Bool
goto #9 if not %21
8 %23 = π (%11, Int64)
%24 = (Base.sitofp)(Float64, %23)::Float64
%25 = (Base.add_float)(%24, %15)::Float64
goto #10
9 (Core.throw)(ErrorException("fatal error in type inference (type bound)"))
$(Expr(:unreachable))
10 %29 = φ (#6 => %19, #8 => %25)::Float64
%30 = (%13 === 10)::Bool
goto #12 if not %30
11 goto #13
12 %33 = (Base.add_int)(%13, 1)::Int64
goto #13
13 %35 = φ (#12 => %33)::Int64
%36 = φ (#12 => %33)::Int64
%37 = φ (#11 => true, #12 => false)::Bool
%38 = (Base.not_int)(%37)::Bool
goto #15 if not %38
14 goto #5
15 %41 = φ (#13 => %29, #4 => 0)::Union{Float64, Int64}
return %41

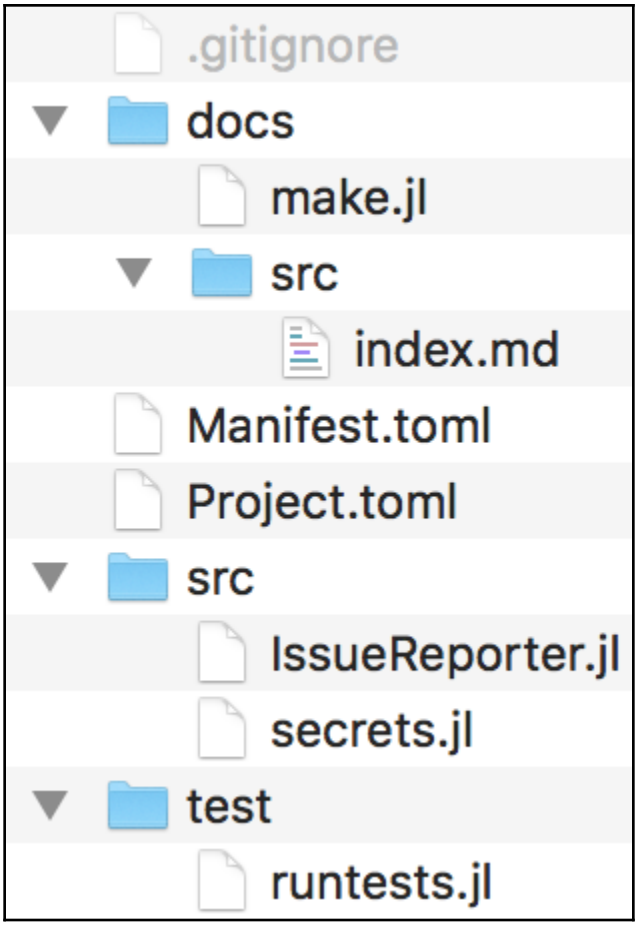
```
Body::Any
35 1 ─ %1  = invoke IssueReporter.generalregistrypath()::Union{Nothing, String}
   │   %2  = invoke IssueReporter.searchregistry(_2::String)::Any
   │   %3  = (Base.getindex)(%2, "path")::Any
   │   %4  = (IssueReporter.joinpath)(%1, %3, "Package.toml")::String
   │   %5  = invoke Base.:(#open#294)($(QuoteNode(Base.Iterators.Pairs{Union{},Union{},
OML.parse), %4::String, "r"::Vararg{String,N} where N)::Dict{String,Any}
   │   %6  = invoke Base.ht_keyindex(%5::Dict{String,Any}, "repo"::String)::Int64
   │   %7  = (Base.slt_int)(%6, 0)::Bool
   └──       goto #3 if not %7
   2 ─ %9  = %new(Base.KeyError, "repo")::KeyError
   │         (Base.throw)(%9)
   └──       $(Expr(:unreachable))
   3 ─ %12 = (Base.getfield)(%5, :vals)::Array{Any,1}
   │   %13 = (Base.arrayref)(false, %12, %6)::Any
   └──       goto #5
   4 ─       $(Expr(:unreachable))
   5 ┄       return %13
```

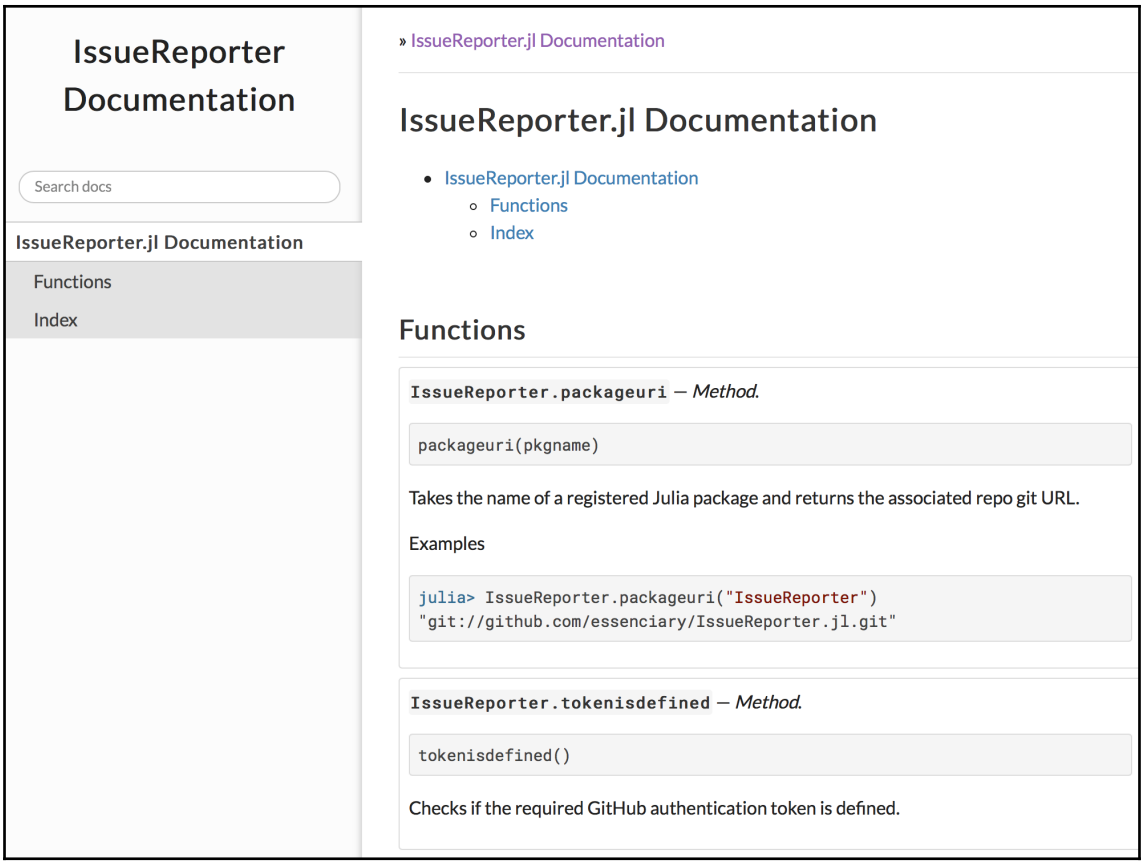
```
Body::String
36 1 ── %1  = IssueReporter.String::Core.Compiler.Const(String, false)
   │    %2  = invoke IssueReporter.searchregistry(_2::String)::Dict{String,Any}
37 │    %3  = (Base.getfield)(%2, :count)::Int64
   │    %4  = (%3 === 0)::Bool
   └──       goto #3 if not %4
   2 ──      return ""
38 3 ┄─ %7  = invoke IssueReporter.generalregistrypath()::String
   │    %8  = invoke Base.ht_keyindex(%2::Dict{String,Any}, "path"::String)::Int64
   │    %9  = (Base.slt_int)(%8, 0)::Bool
   └──       goto #5 if not %9
   4 ── %11 = %new(Base.KeyError, "path")::KeyError
   │         (Base.throw)(%11)
   └──       $(Expr(:unreachable))
   5 ── %14 = (Base.getfield)(%2, :vals)::Array{Any,1}
   │    %15 = (Base.arrayref)(false, %14, %8)::Any
   └──       goto #7
   6 ──      $(Expr(:unreachable))
   7 ┄─ %18 = (IssueReporter.joinpath)(%7, %15, "Package.toml")::String
   │    %19 = invoke Base.:(#open#294)($(QuoteNode(Base.Iterators.Pairs{Union{},Unio
TOML.parse), %18::String, "r"::Vararg{String,N} where N)::Dict{String,Any}
   │    %20 = %new(getfield(Base, Symbol("##223#224")){String}, ""):getfield(Base,
   │    %21 = invoke Base.get!(%20::getfield(Base, Symbol("##223#224")){String}, %19
   │    %22 = (isa)(%21, String)::Bool
   └──       goto #9 if not %22
   8 ── %24 = π (%21, String)
   └──       goto #10
   9 ── %26 = (Base.convert)(%1, %21)::String
   └──       goto #10
   10 ┄ %28 = φ (#8 => %24, #9 => %26)::String
   └──       return %28
   11 ─      goto #3
```

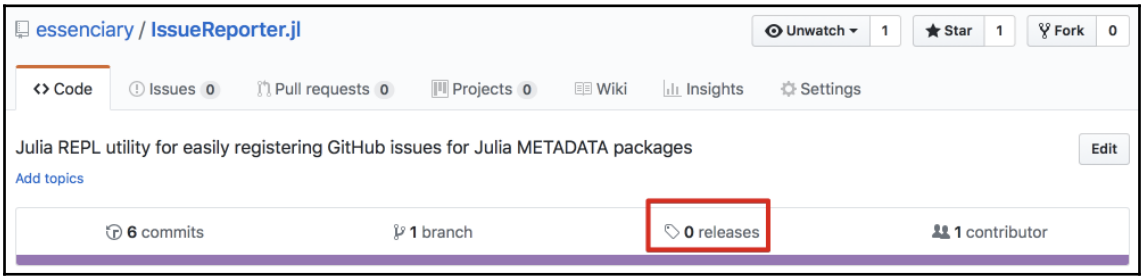

New personal access token
Personal access tokens function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to authenticate to the API over Basic Authentication.
Token description
IssueReporter.jl access
What's this token for?
Select scopes
Scopes define the access for personal tokens. Read more about OAuth scopes.
repo
Full control of private repositories
repo:status
Access commit status
repo_deployment
Access deployment status
public_repo
Access public repositories
repo:invite
Access repository invitations
admin:org
Full control of orgs and teams
write:org
Read and write org and team membership
read:org
Read org and team membership

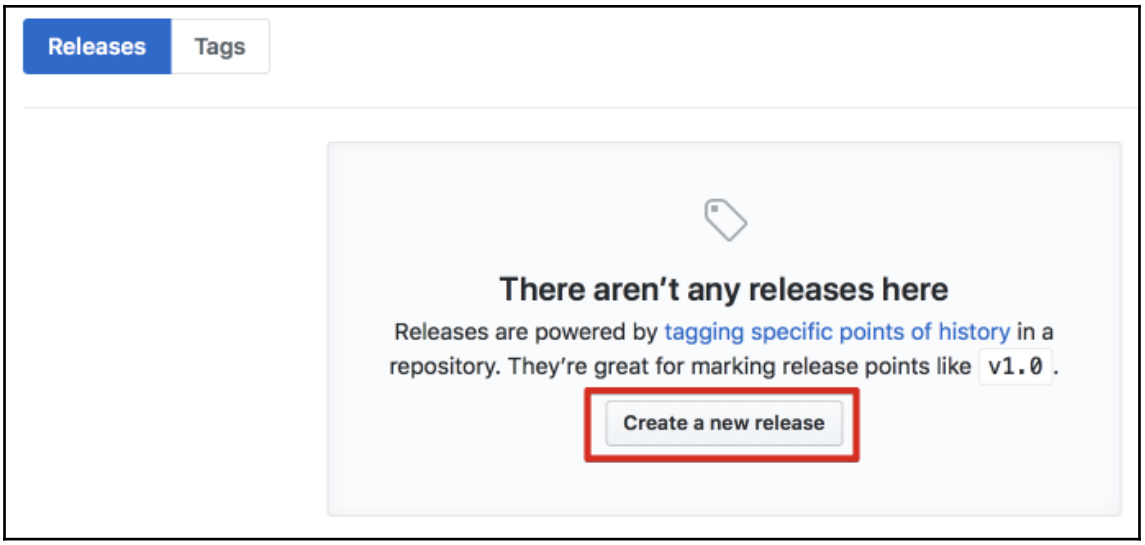

Testing IssueReporter
Resolving package versions...
Test Summary: | Pass Total
Interacting with the registry | 1 1
Test Summary: | Pass Total
Basic features | 1 1
Test Summary: | Pass Total
GitHub integration | 5 5

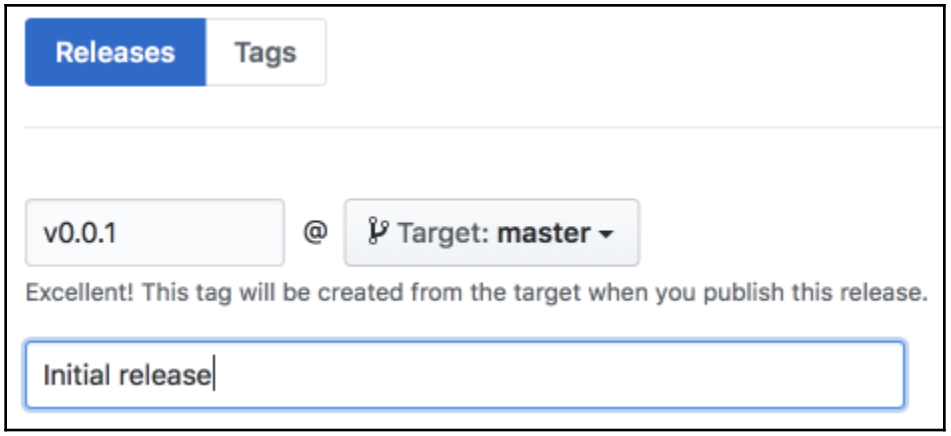

1 Open
4 Closed
I found a bug
#5 opened 39 seconds ago by essenciary


.gitignore
docs
make.jl
src
index.md
Manifest.toml
Project.toml
src
IssueReporter.jl
secrets.jl
test
runtests.jl


IssueReporter Documentation
Search docs
IssueReporter.jl Documentation
Functions
Index
» IssueReporter.jl Documentation
IssueReporter.jl Documentation
IssueReporter.jl Documentation
Functions
Index
Functions
IssueReporter.packageuri — Method.
packageuri(pkgname)
Takes the name of a registered Julia package and returns the associated repo git URL.
Examples
julia> IssueReporter.packageuri("IssueReporter")
"git://github.com/essenciary/IssueReporter.jl.git"
IssueReporter.tokenisdefined — Method.
tokenisdefined()
Checks if the required GitHub authentication token is defined.


essenciary / IssueReporter.jl
Unwatch 1
Star 1
Fork 0
Code
Issues 0
Pull requests 0
Projects 0
Wiki
Insights
Settings
Julia REPL utility for easily registering GitHub issues for Julia METADATA packages
Edit
Add topics
6 commits
1 branch
0 releases
1 contributor


Releases
Tags
There aren't any releases here
Releases are powered by tagging specific points of history in a repository. They're great for marking release points like v1.0 .
Create a new release


Releases
Tags
v0.0.1
@
Target: master
Excellent! This tag will be created from the target when you publish this release.
Initial release