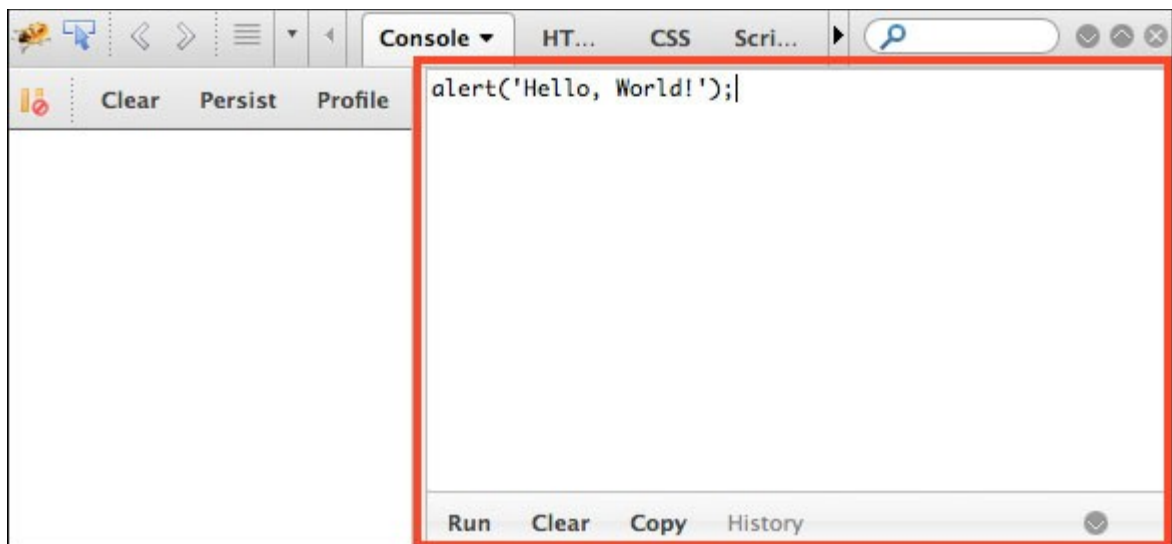
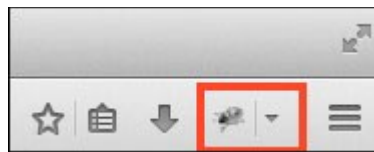
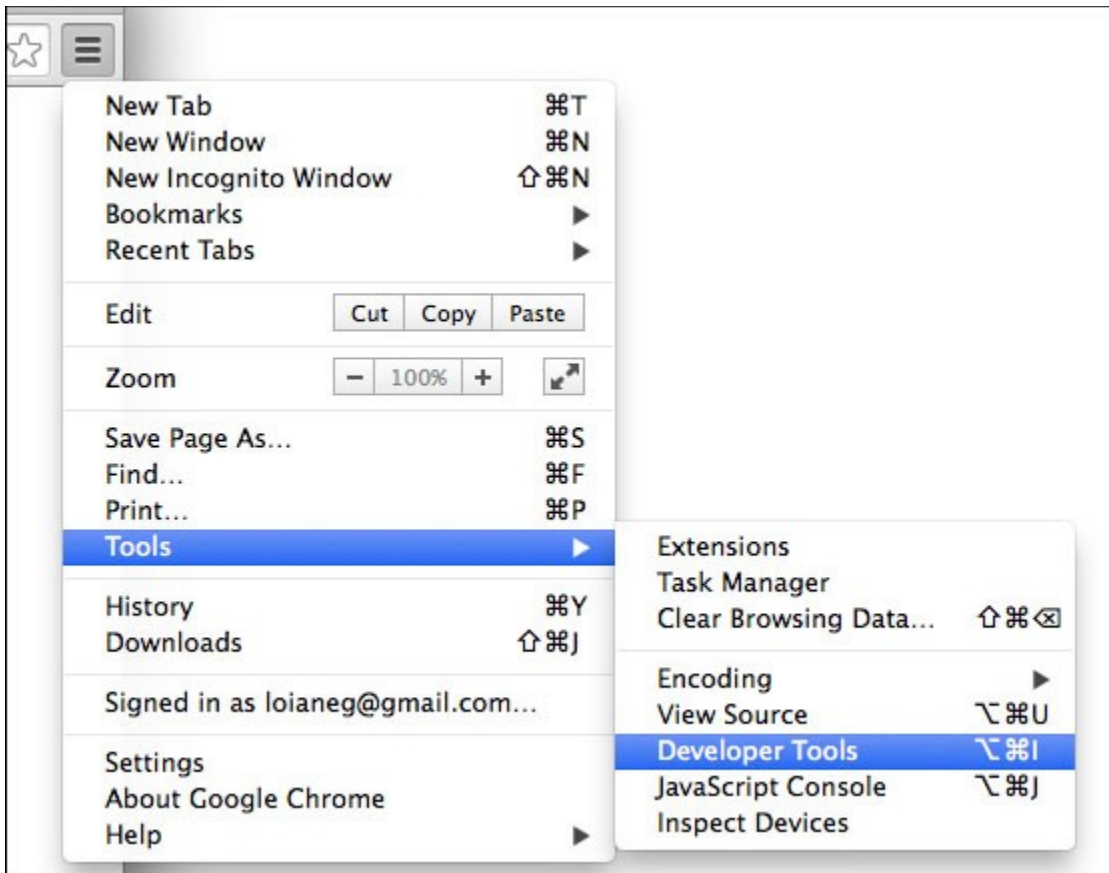
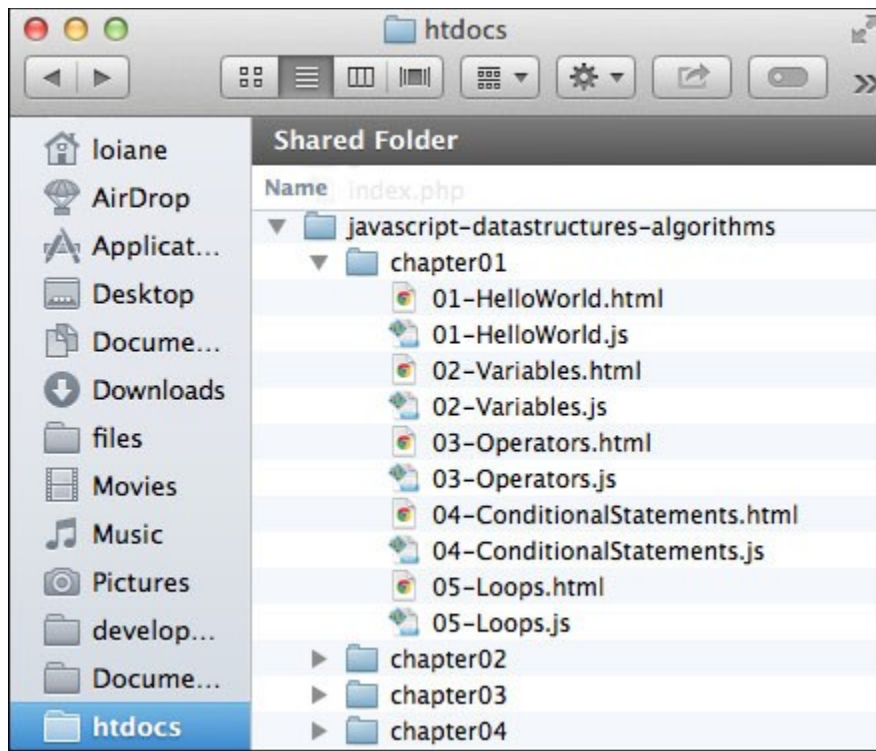


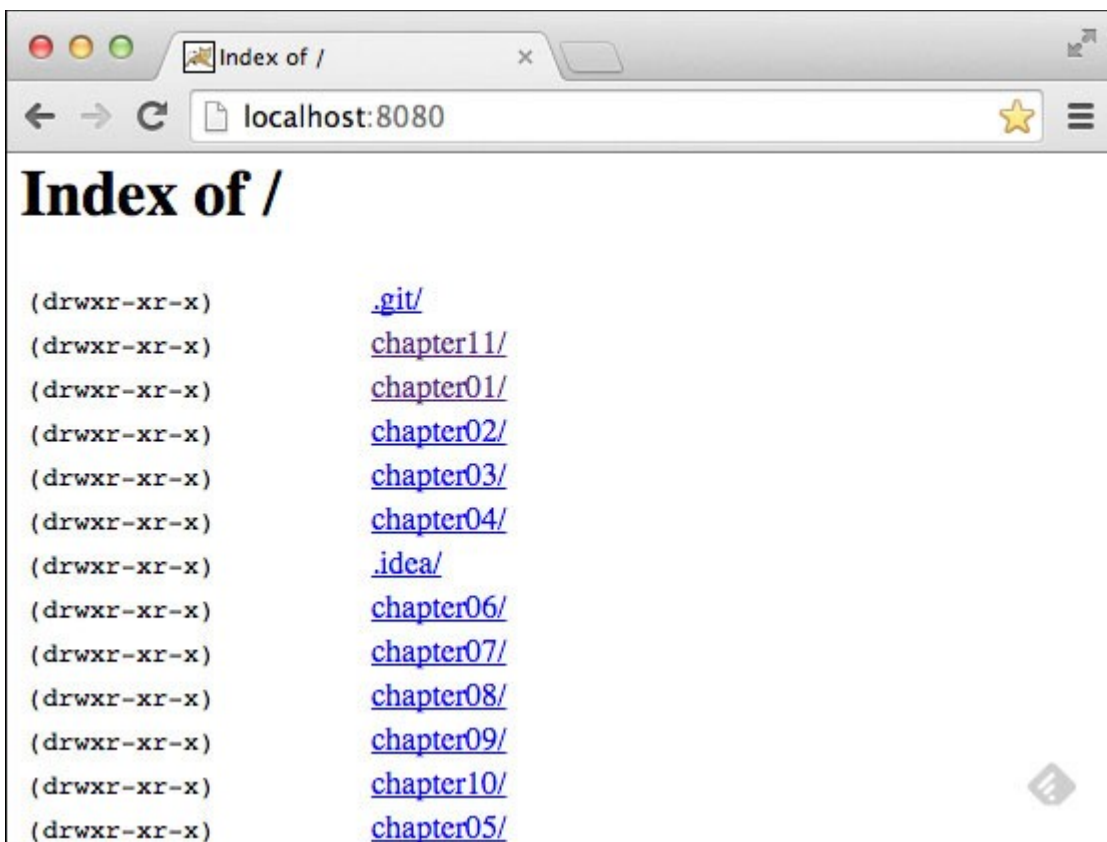
## Chapter 1: JavaScript—A Quick Overview







```
javascript-datastructures-algorithms — node — 82x7
loianeg:~ loiane$ cd /Users/loiane/Documents/javascript-datastructures-algorithms
loianeg:javascript-datastructures-algorithms loiane$ http-server
Starting up http-server, serving ./ on port: 8080
Hit CTRL-C to stop the server
```



chrome://flags/#enable-javascript-harmony

chrome://flags/#enable-javascript-harmony

Some web pages use legacy or non-standard JavaScript extensions that may conflict with the latest JavaScript features. This flag disables support of those features for compatibility with such pages. [#disable-javascript-harmony-shipping](#)

[Enable](#)

**Enable Experimental JavaScript** Mac, Windows, Linux, Chrome OS, Android  
Enable web pages to use experimental JavaScript features. [#enable-javascript-harmony](#)

[Enable](#)

**Enable GPU rasterization.** Mac, Windows, Linux, Chrome OS, Android  
Use GPU to rasterize web content. Requires impl-side painting. [#enable-gpu-rasterization](#)

Default

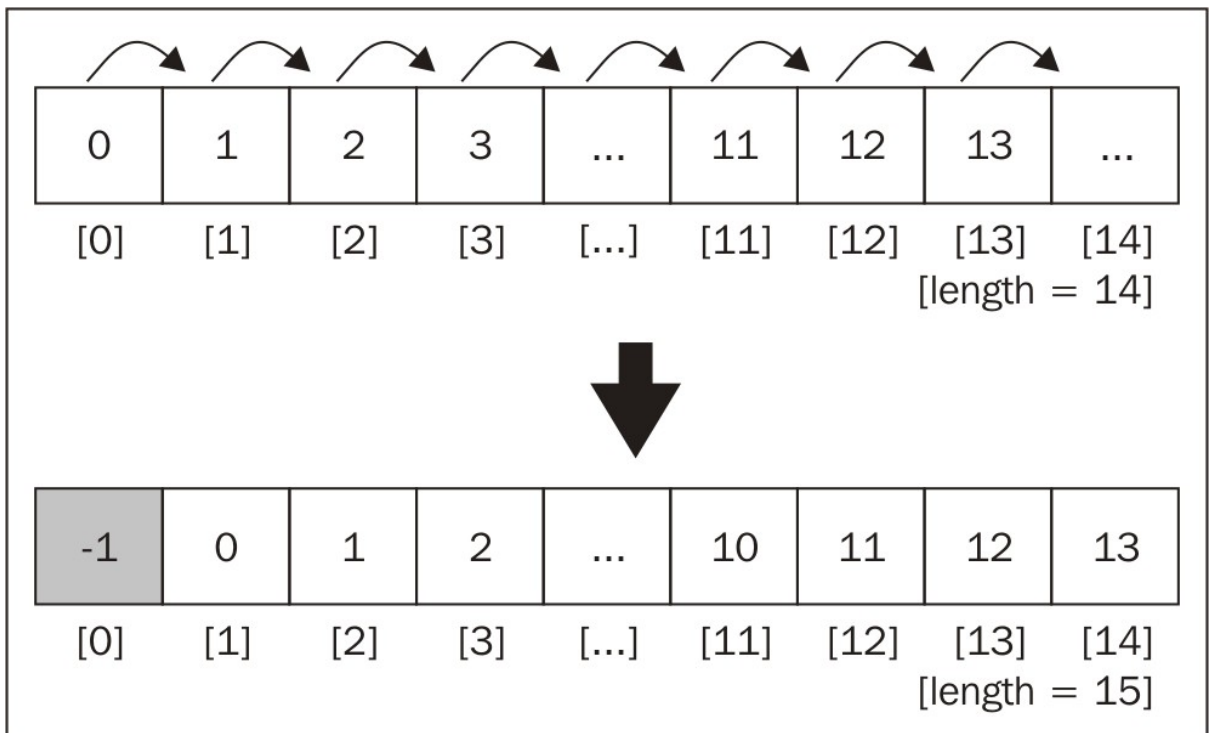
**GPU rasterization MSAA sample count.** Mac, Windows, Linux, Chrome OS, Android  
Specify the number of MSAA samples for GPU rasterization. [#gpu-rasterization-msaa-sample-count](#)

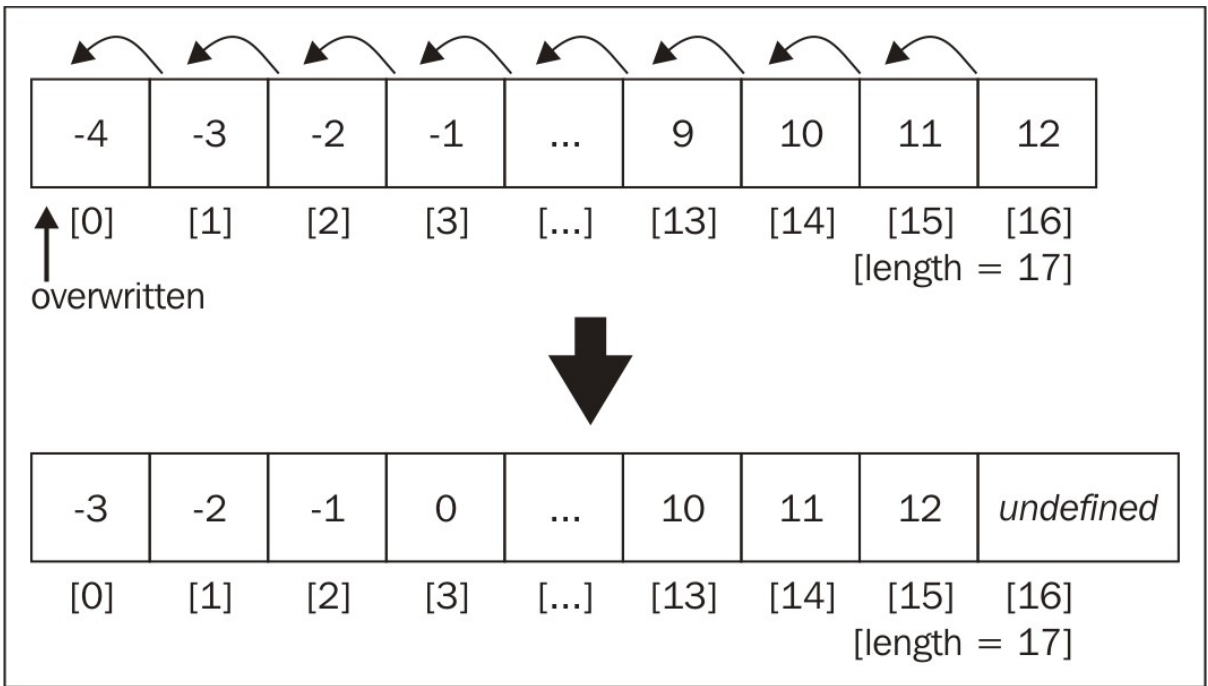
The image shows a browser window with the following elements:

- Browser Tab:** "6 Babel · The compiler for wr x" with a user profile "Loiane".
- Address Bar:** "babeljs.io/repl/" with navigation icons (back, forward, refresh) and a star icon.
- Header:** A yellow bar with the "BABEL" logo in a stylized font and a hamburger menu icon.
- Configuration Bar:** A dark bar with four options:  Experimental,  Loose mode,  High compliancy, and  Evaluate.
- Code Editor:** A split view with two panels. The left panel is empty. The right panel contains the code: 

```
1 "use strict";
```

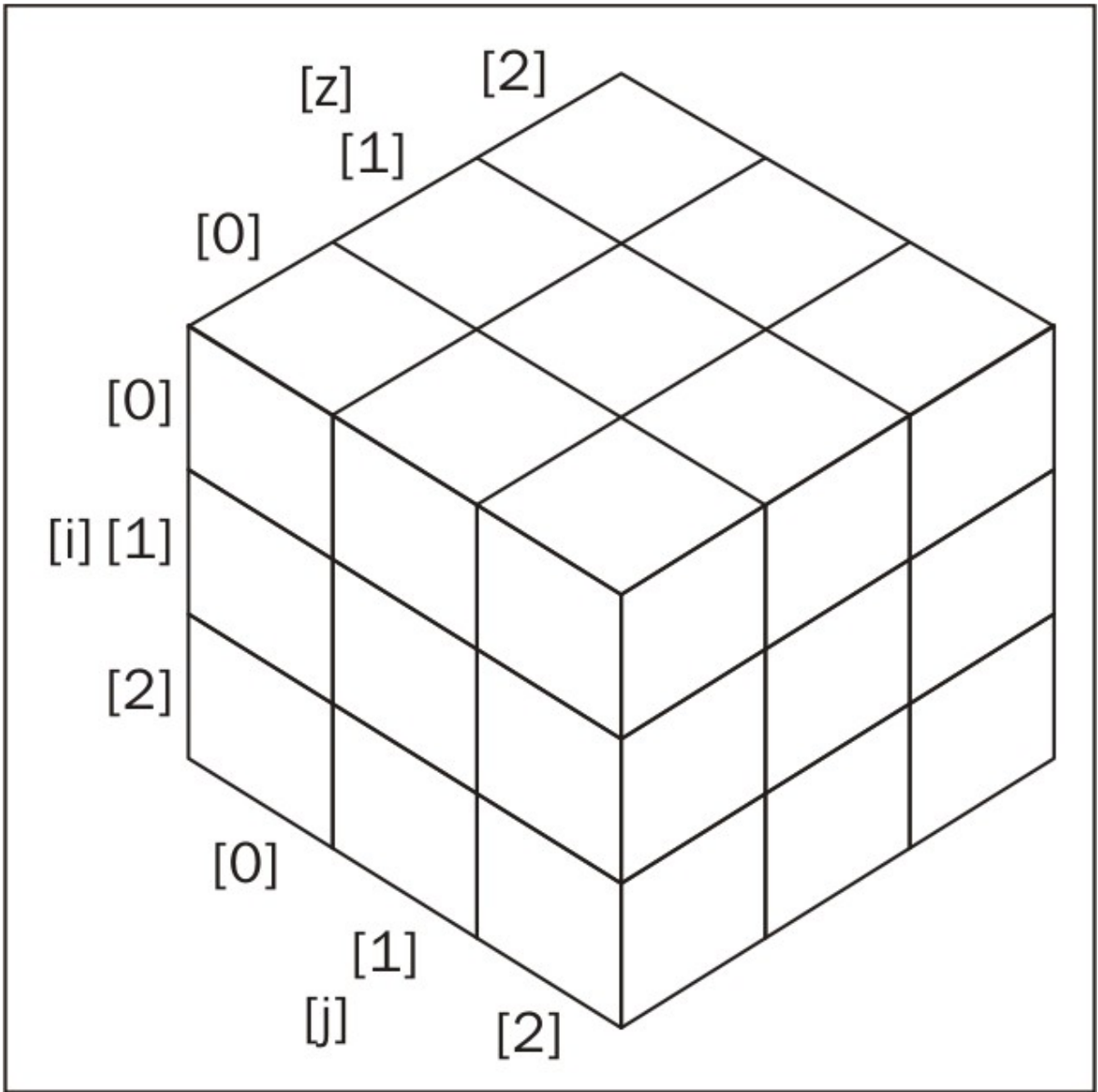
## Chapter 2: Arrays





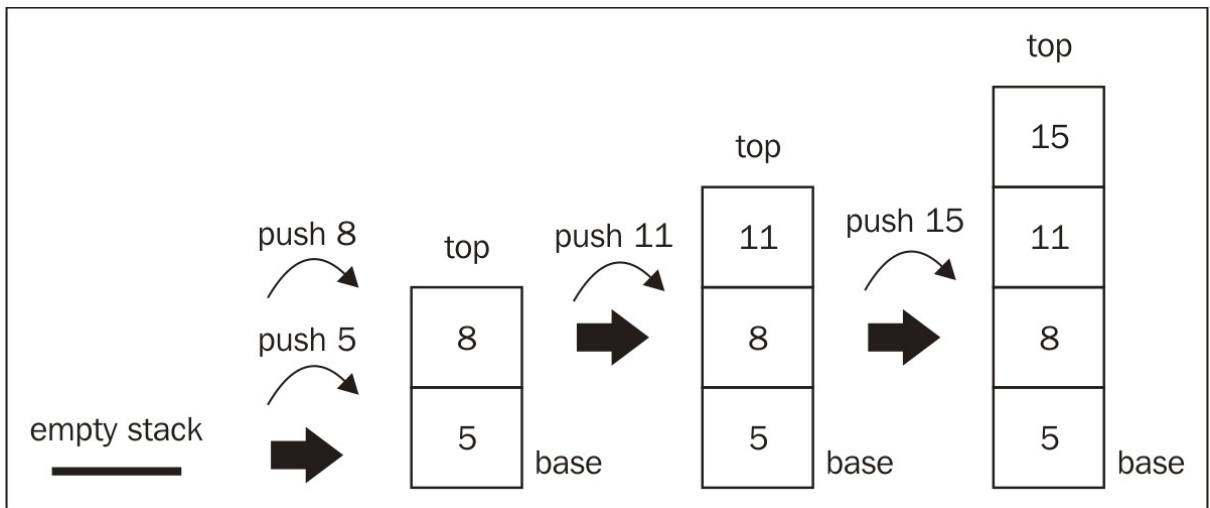
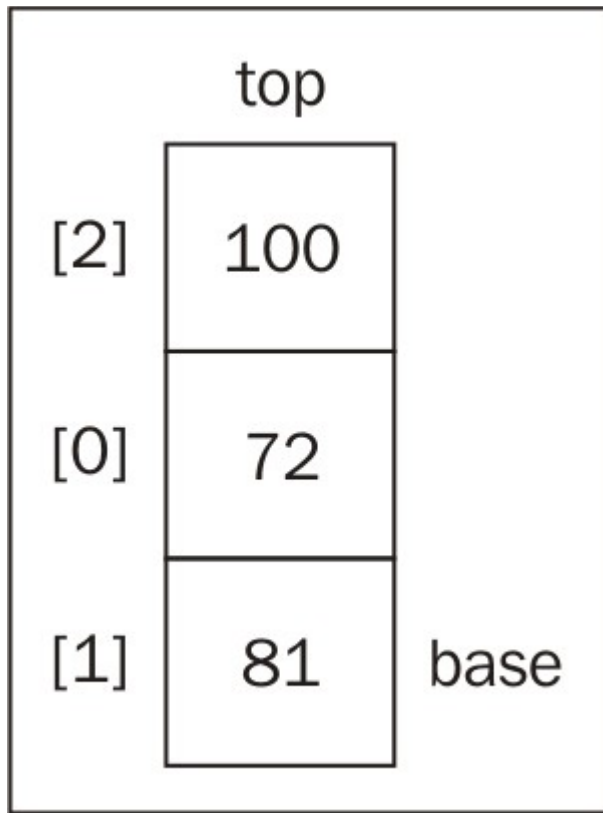
	[0]	[1]	[2]	[3]	[4]	[5]
[0]	72	75	79	79	81	81
[1]	81	79	75	75	73	73

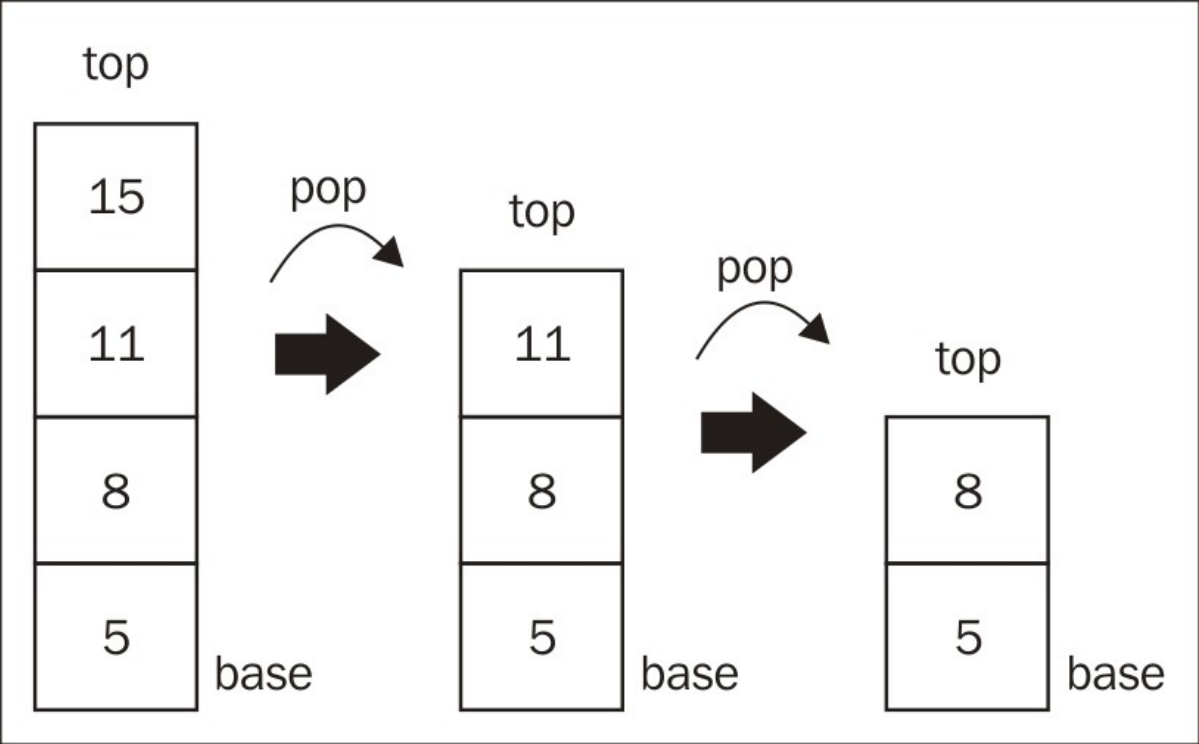




## Chapter 3: Stacks





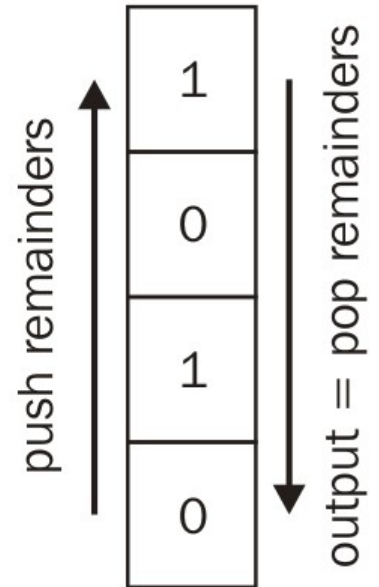


$$10 / 2 == 5 \quad \text{rem} == 0$$

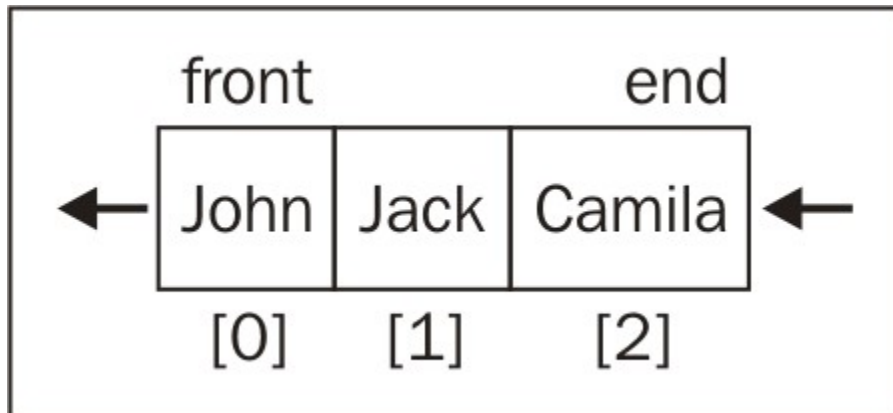
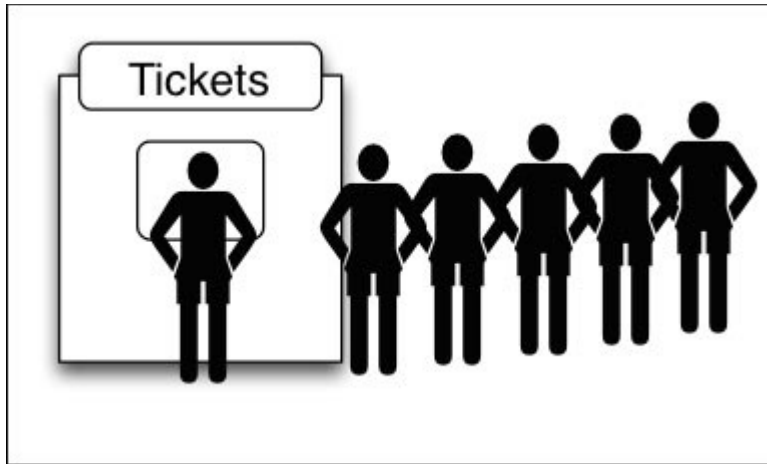
$$5 / 2 == 2 \quad \text{rem} == 1$$

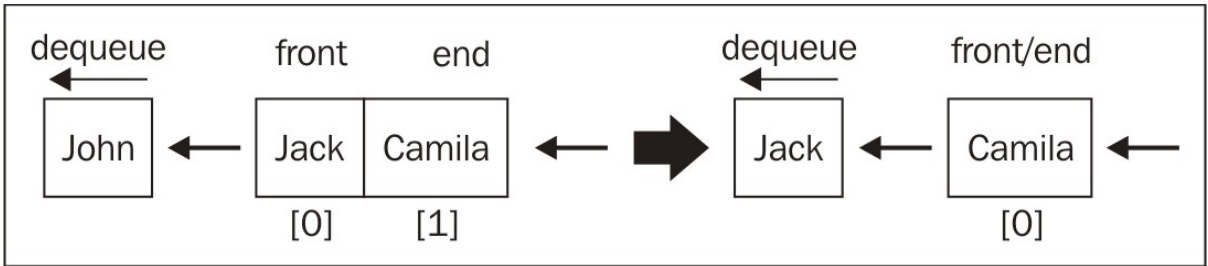
$$2 / 2 == 1 \quad \text{rem} == 0$$

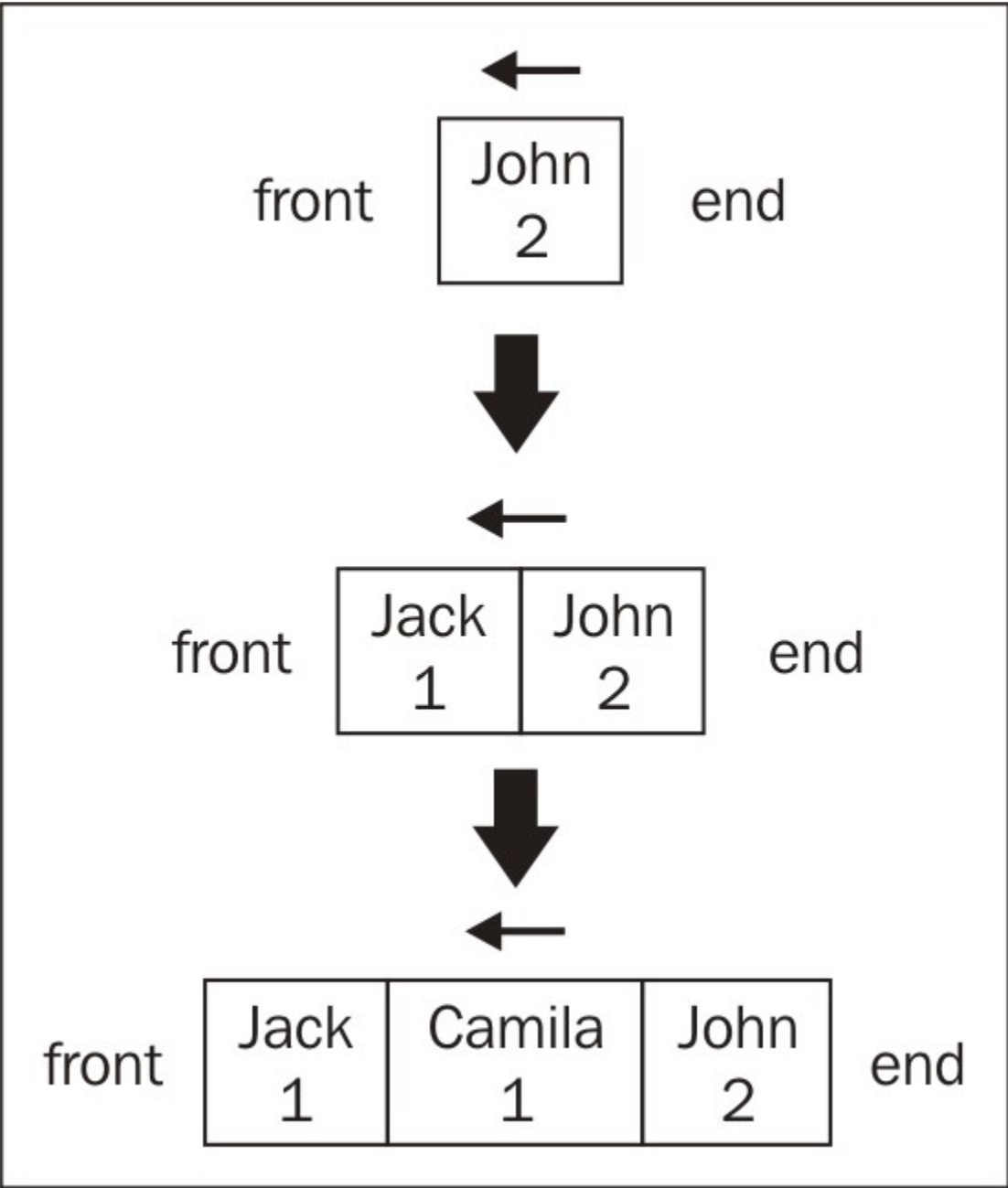
$$1 / 2 == 0 \quad \text{rem} == 1$$



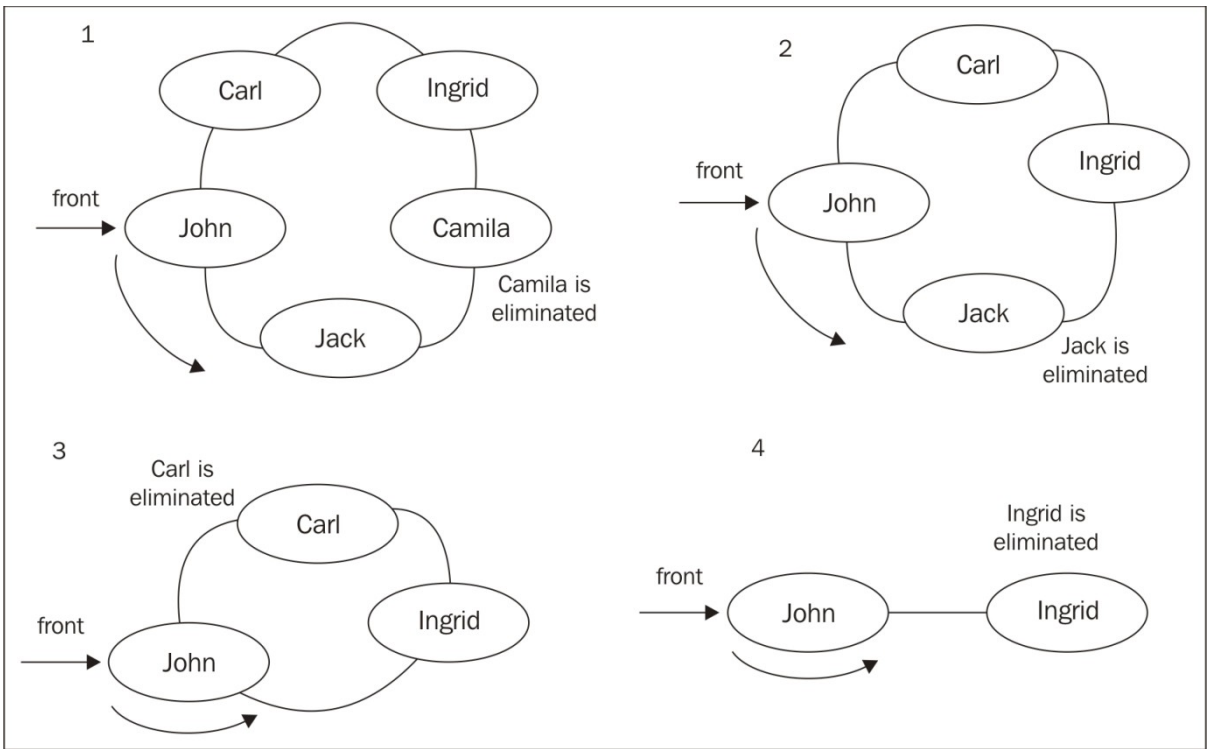
## Chapter 4: Queues



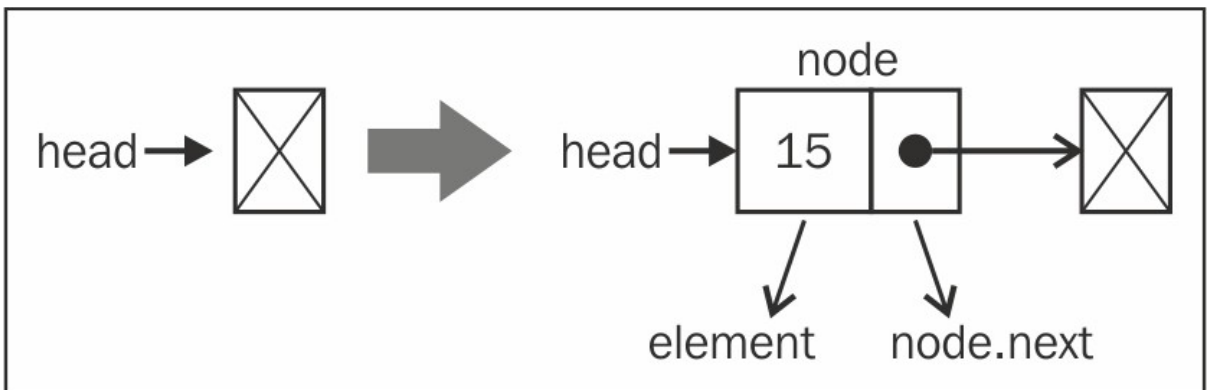
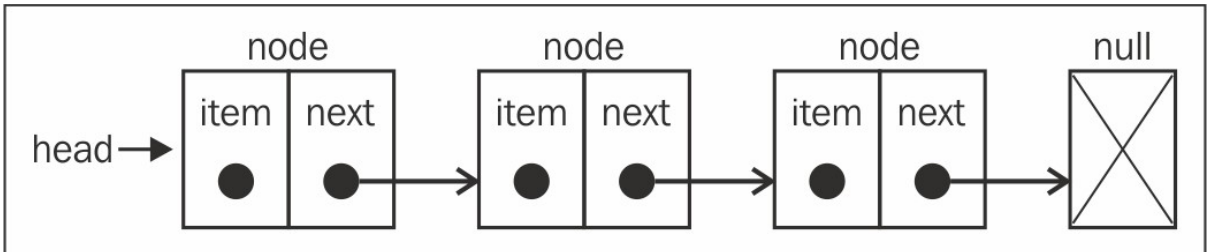


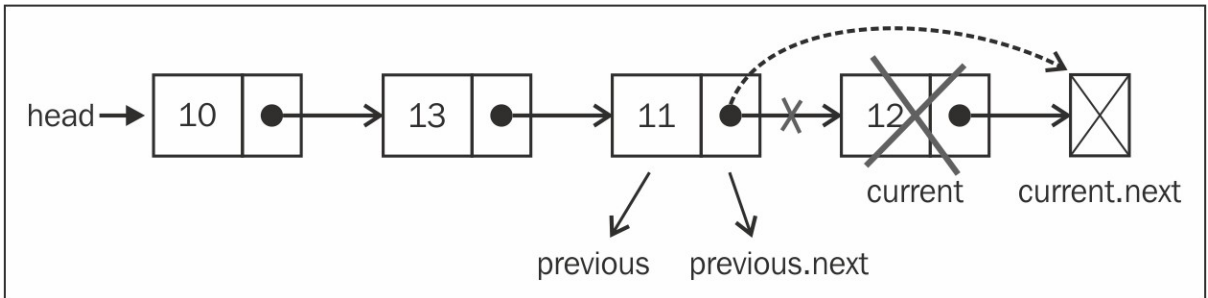
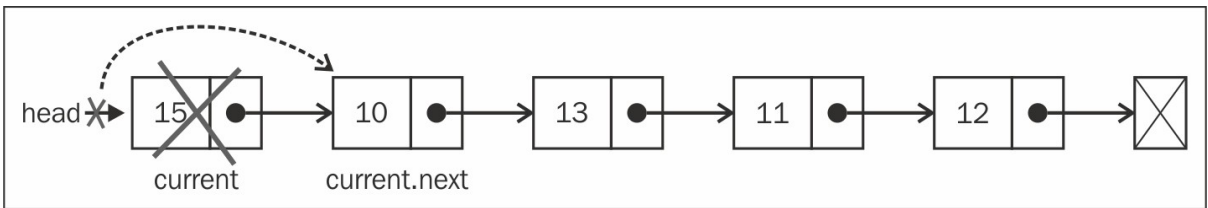
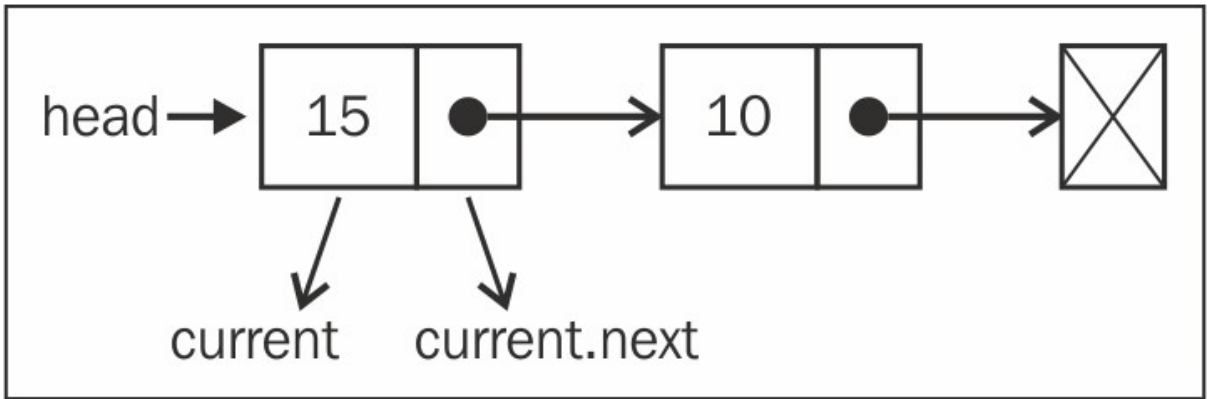


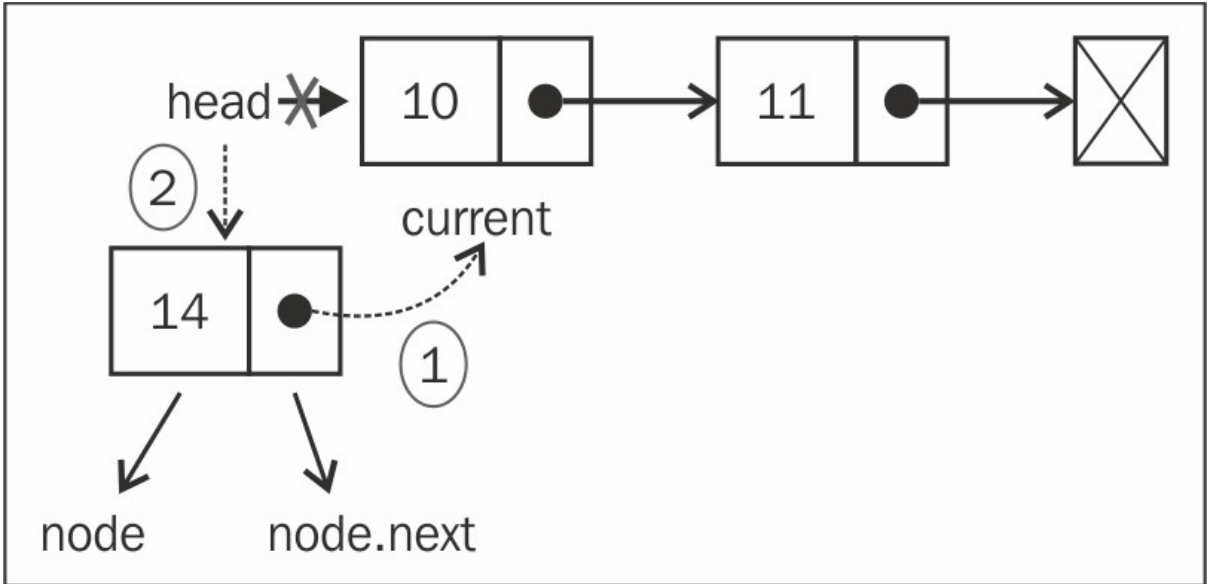
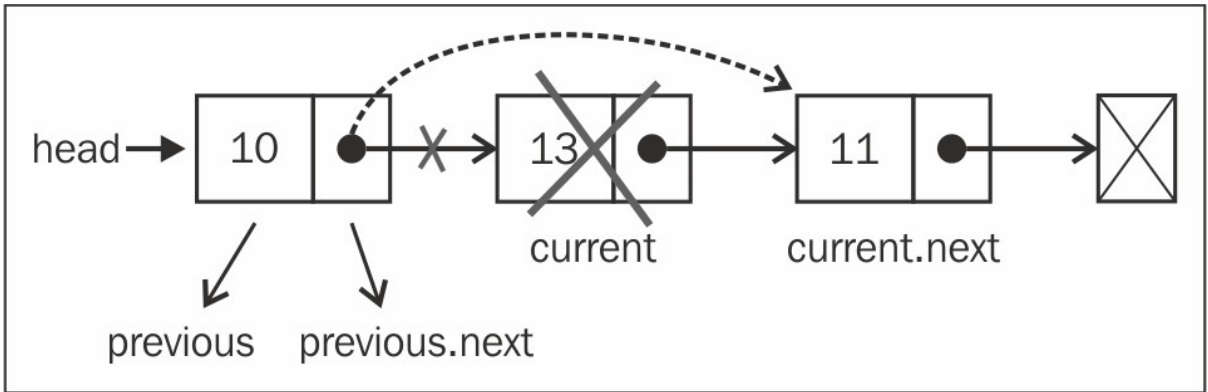


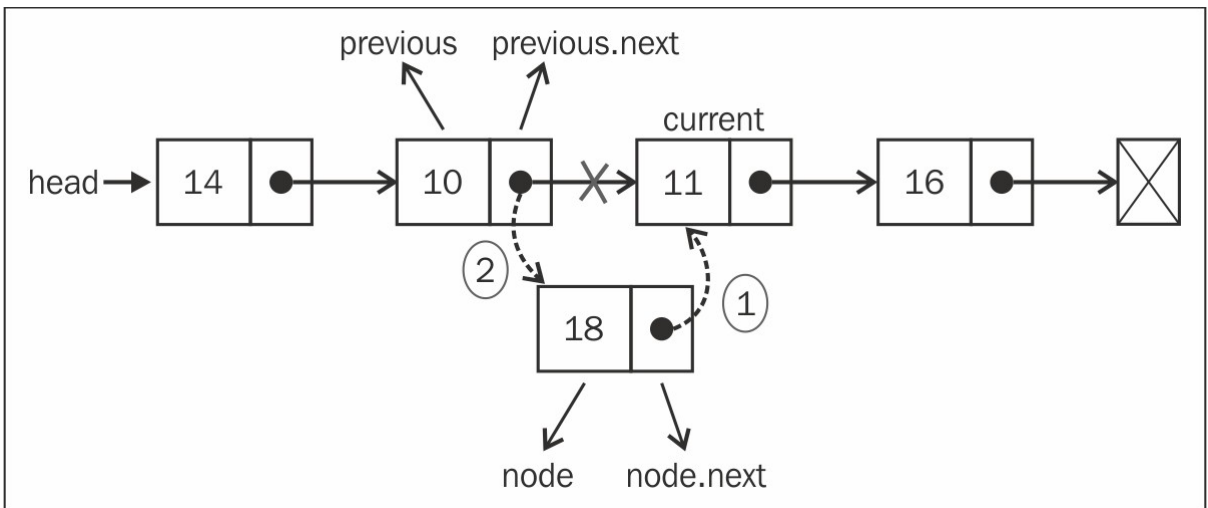
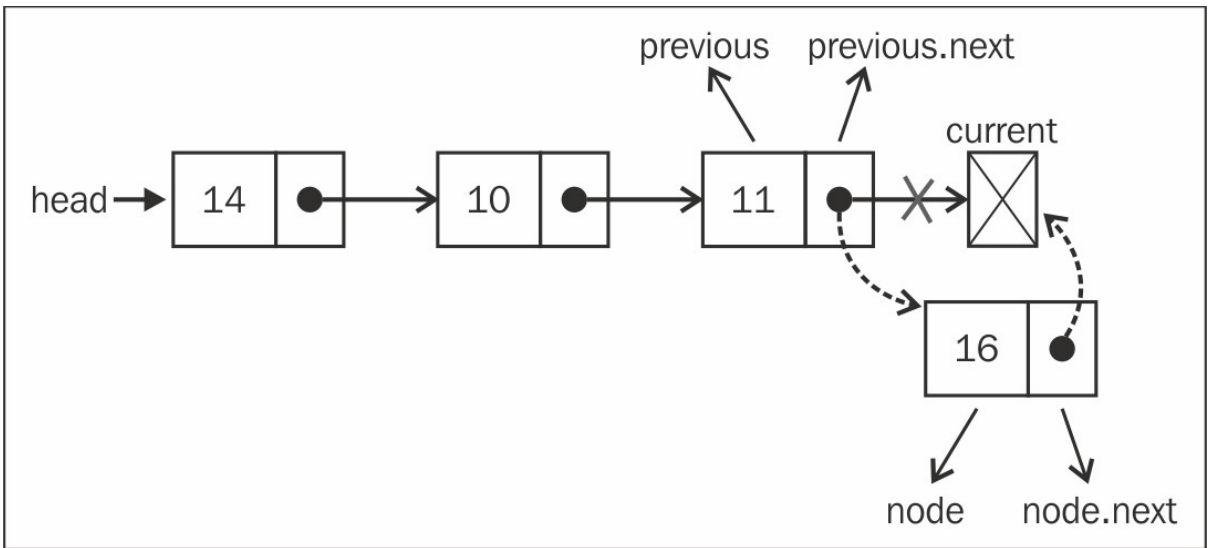


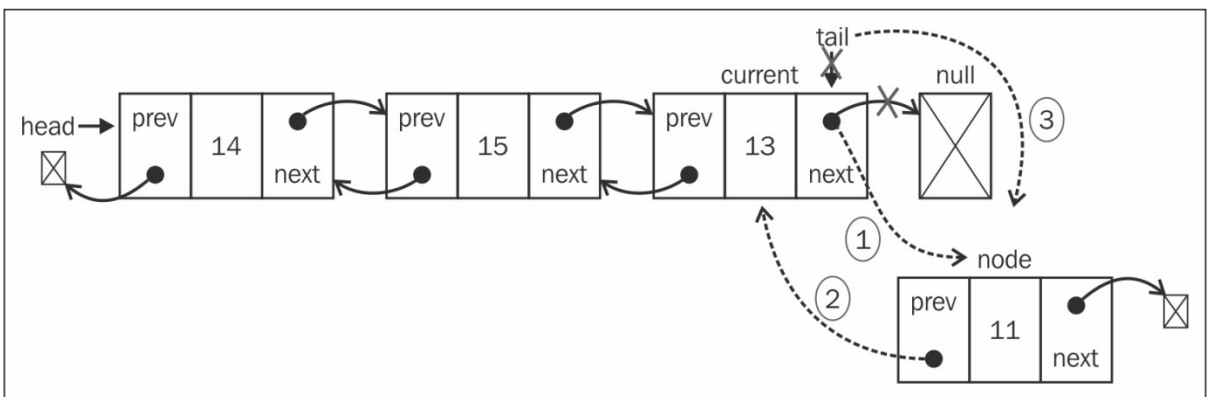
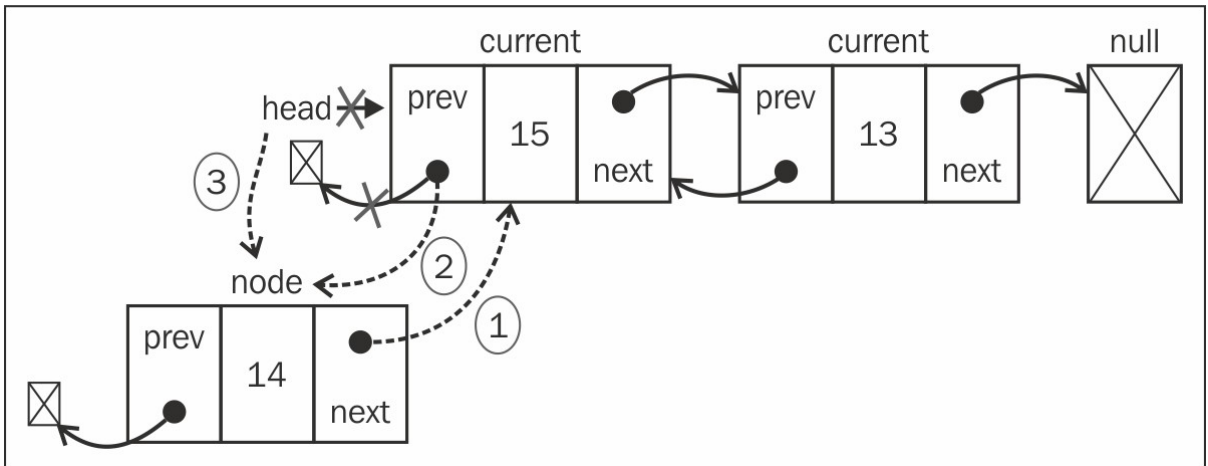
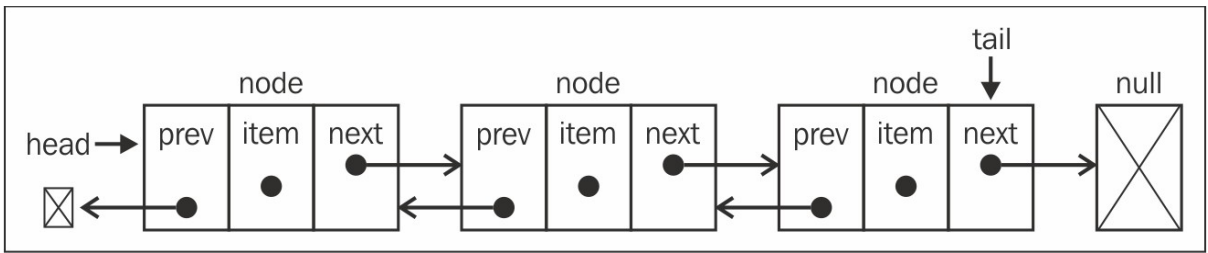
## Chapter 5: Linked Lists

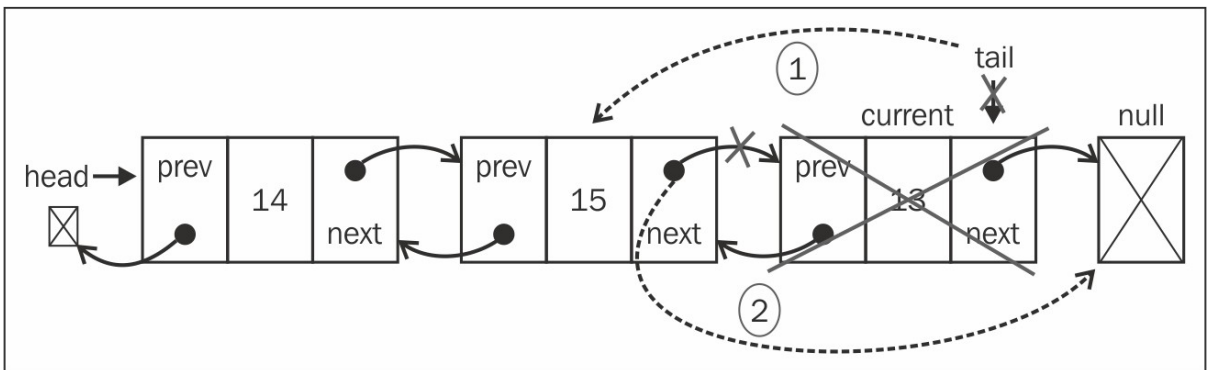
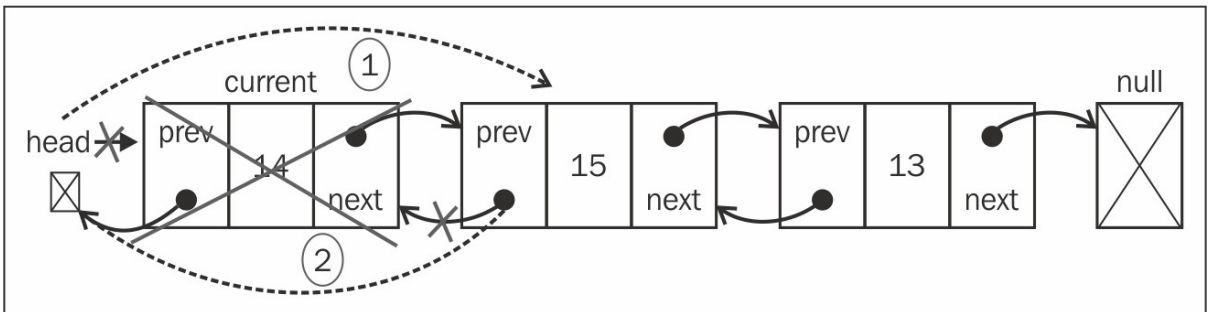
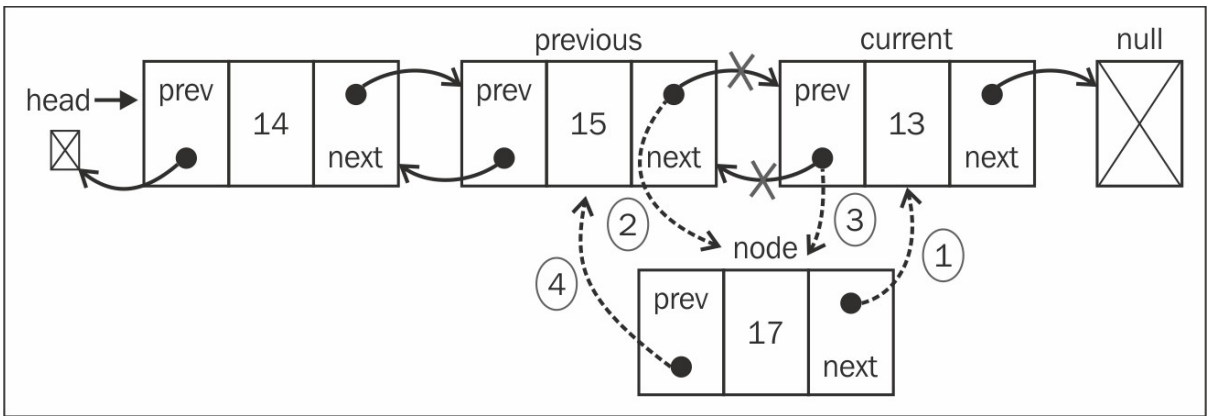


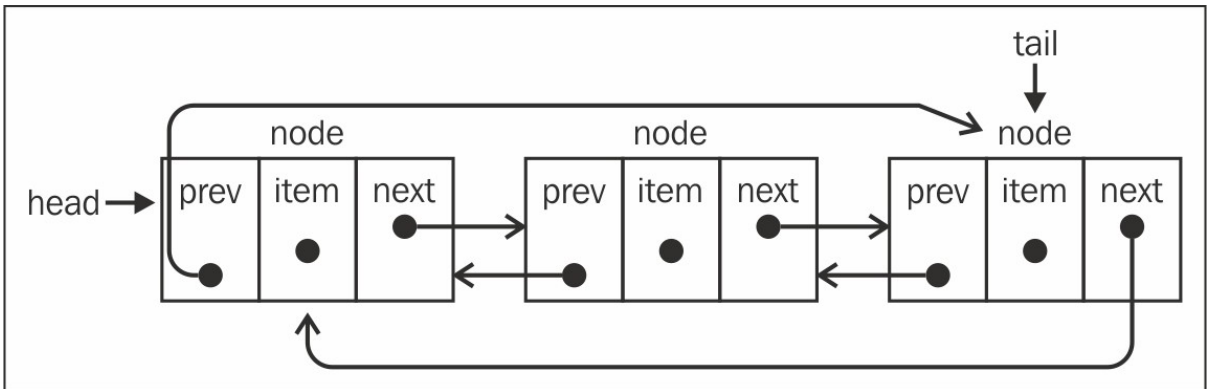
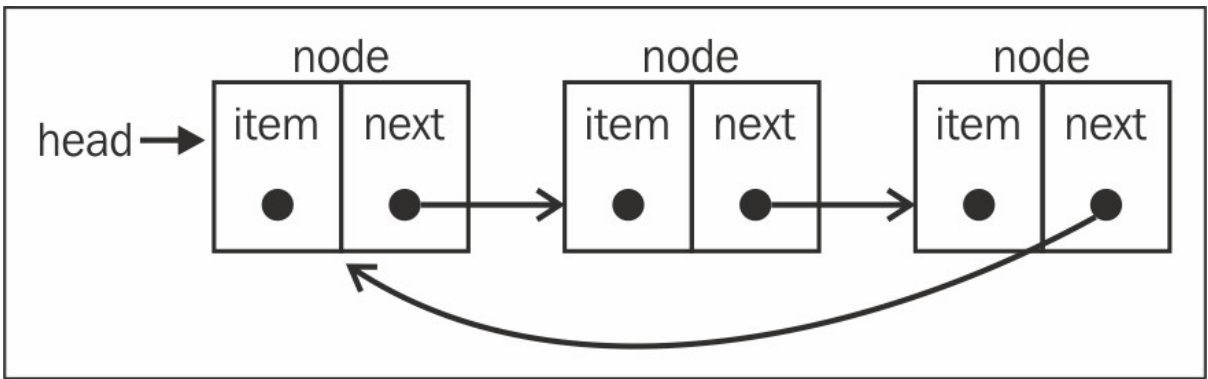
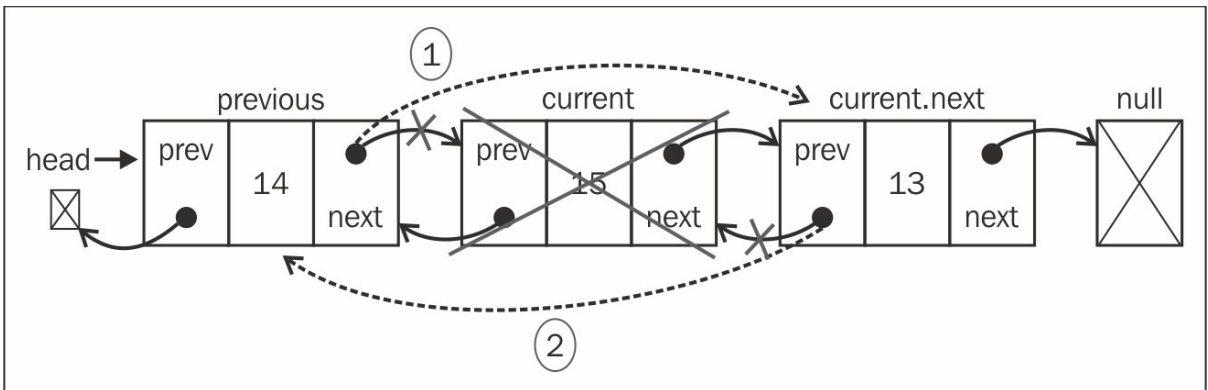










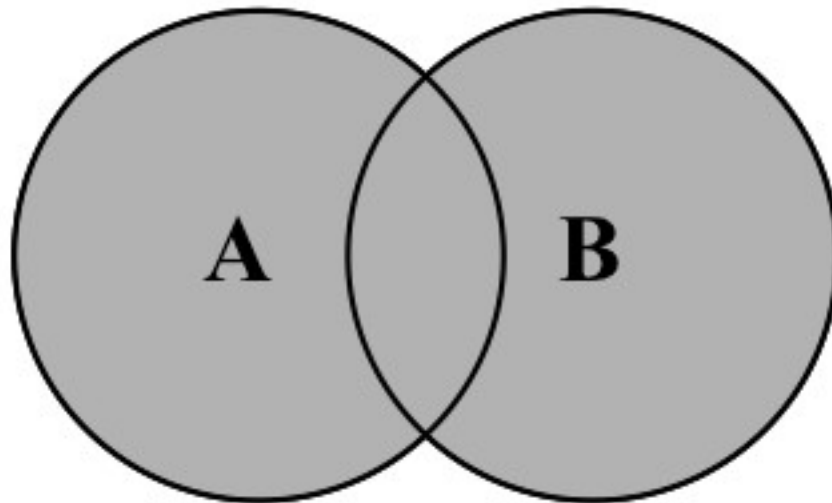




## Chapter 6: Sets

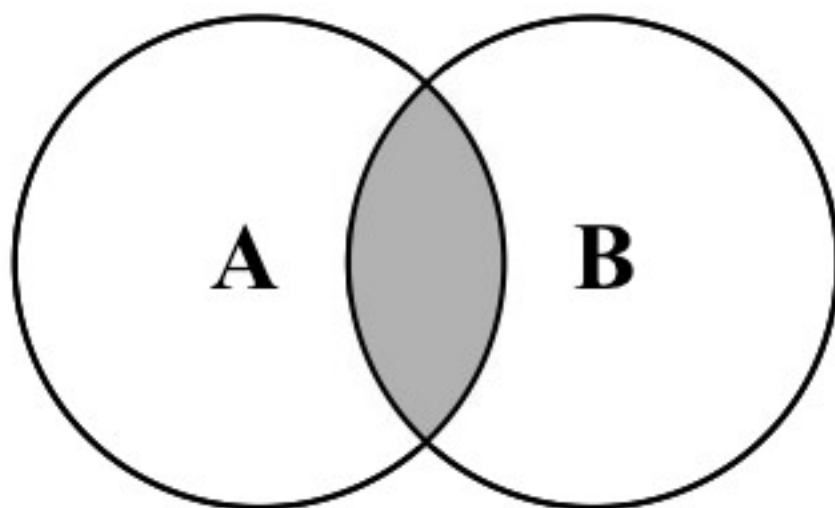
$$A \cup B$$

$$A \cup B = \{x \mid x \in A \vee x \in B\}$$

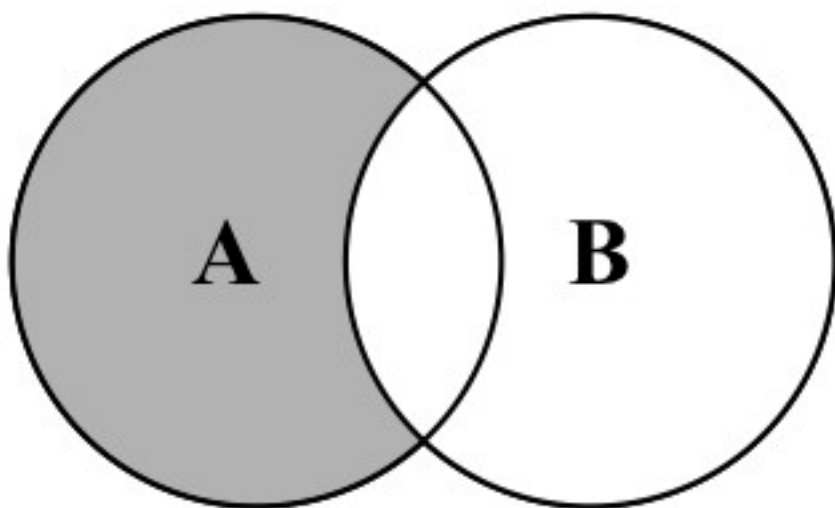


$$A \cap B$$

$$A \cap B = \{x \mid x \in A \wedge x \in B\}$$

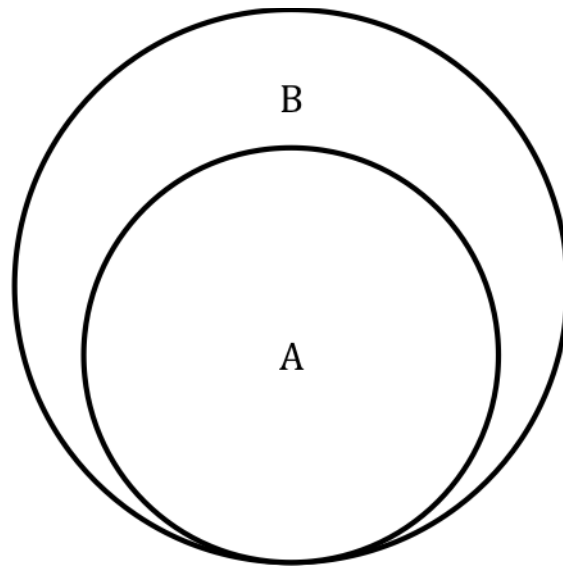


$$A - B = \{x \mid x \in A \wedge x \notin B\}$$



$$A \subseteq B$$

$$\forall x \{x \in A \Rightarrow x \in B\}$$

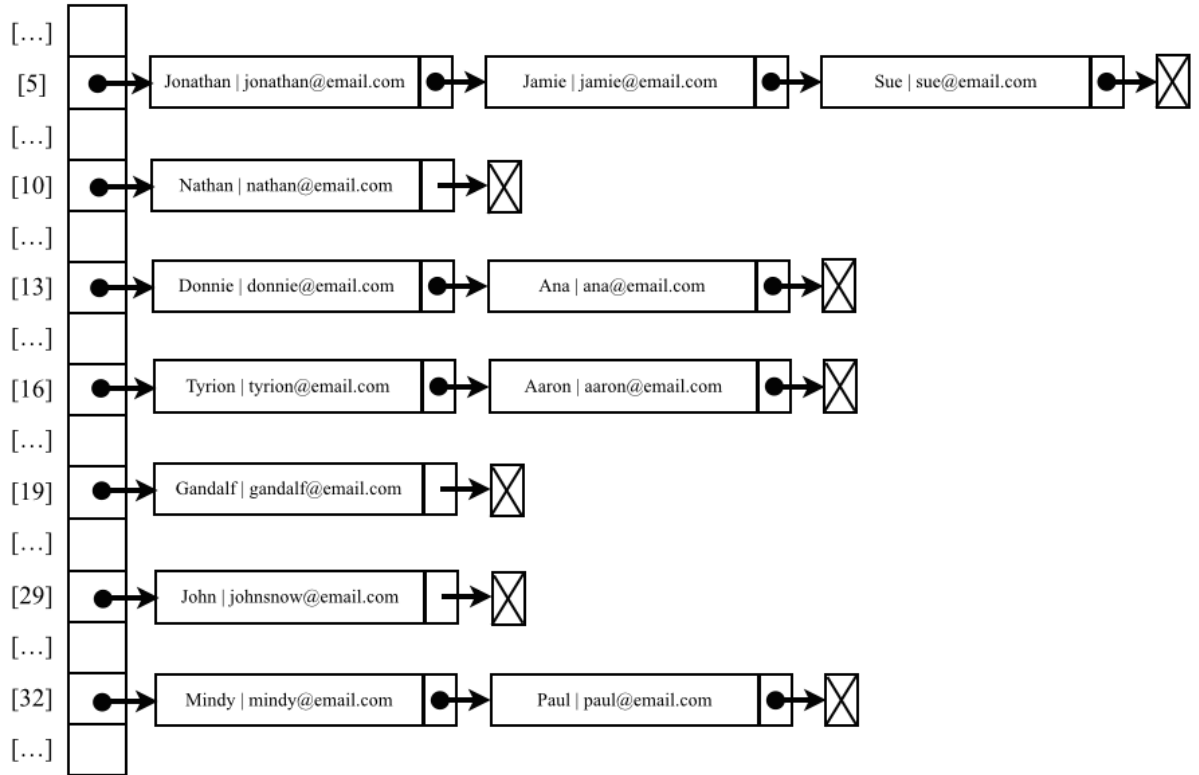


## Chapter 7: Dictionaries and Hashes

Name/Key	Hash Function	Hash Value	Hash Table
Gandalf	$71 + 97 + 110 + 100 + 97 + 108 + 102$	685	[...]
John	$74 + 111 + 104 + 110$	399	[399] johnsnow@email.com
Tyrion	$84 + 121 + 114 + 105 + 111 + 110$	645	[...]
			[645] tyrion@email.com
			[...]
			[685] gandalf@email.com
			[...]

Name/Key	Hash Value	Hash Table	
Gandalf	19	[...]	
John	29	[16]	tyrion@email.com
Tyrion	16	[...]	gandalf@email.com
		[19]	
		[...]	johnsnow@email.com
		[29]	
		[...]	

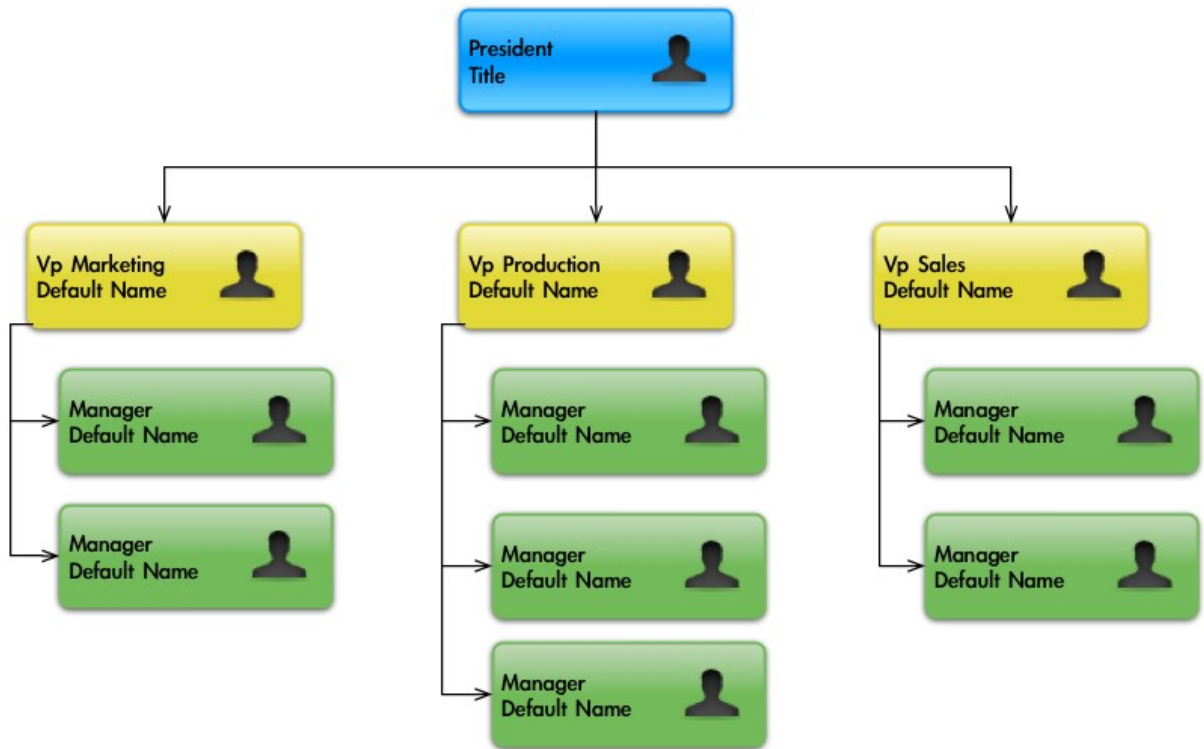
### Hash Table



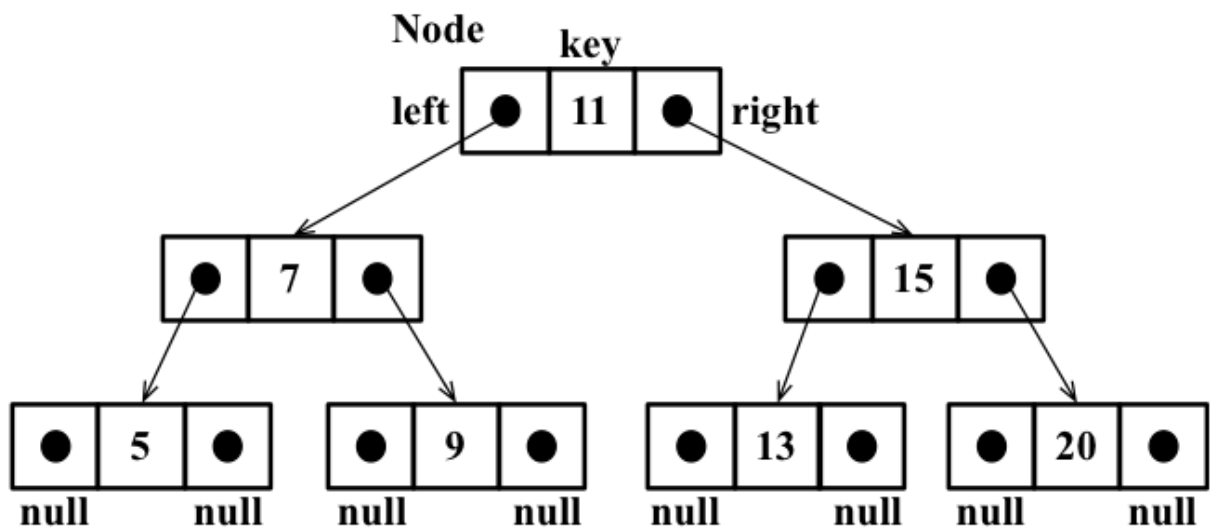
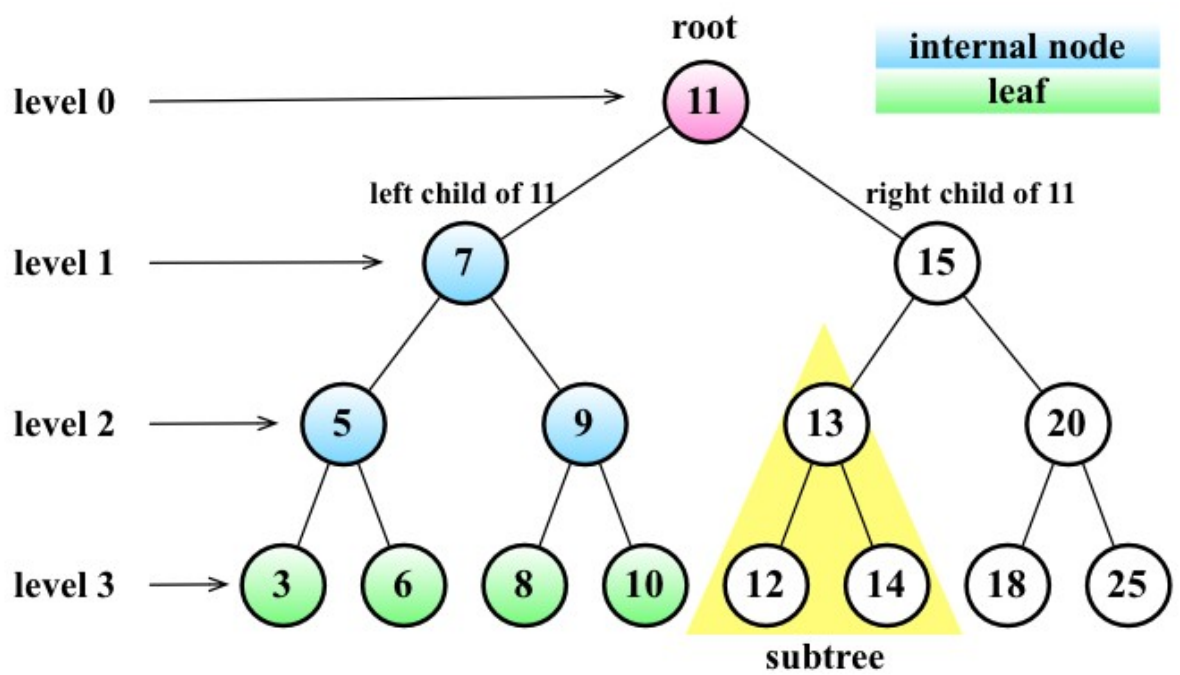
### Hash Table

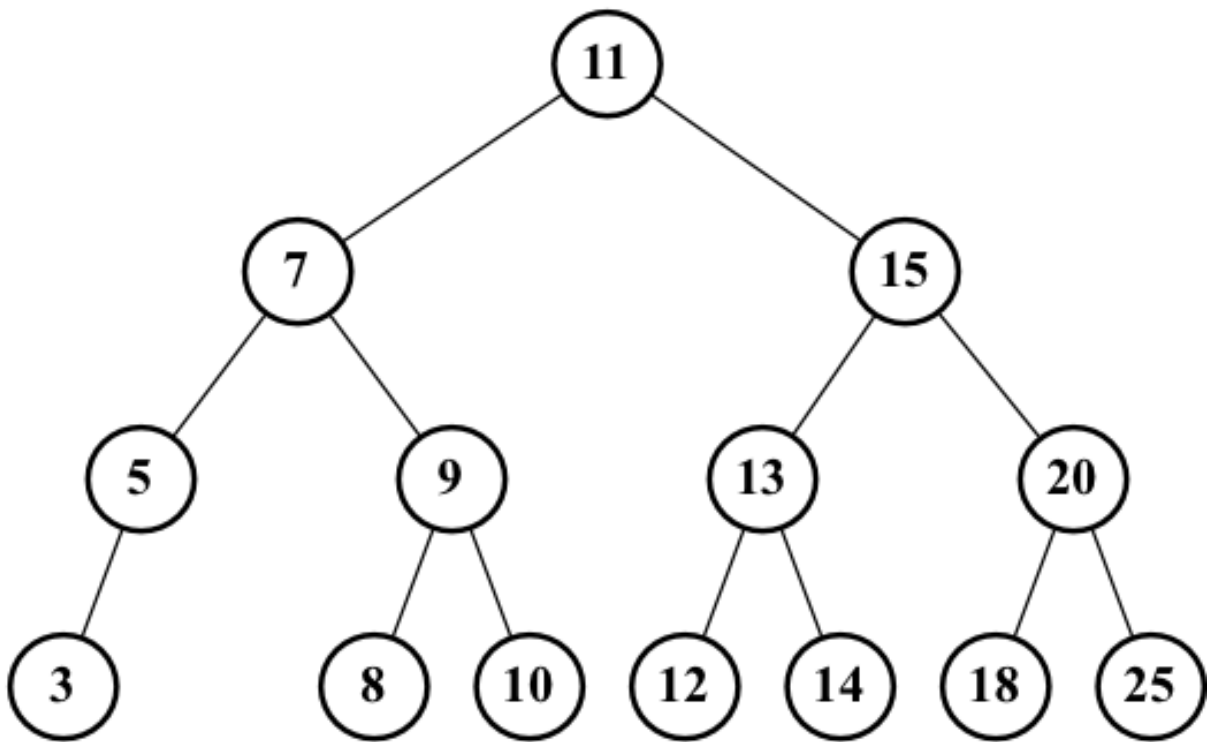
[...]	
[5]	Jonathan   jonathan@email.com
[6]	Jamie   jamie@email.com
[7]	Sue   sue@email.com
[...]	
[10]	Nathan   nathan@email.com
[...]	
[13]	Donnie   donnie@email.com
[14]	Ana   ana@email.com
[...]	
[16]	Tyrion   tyrion@email.com
[17]	Aaron   aaron@email.com
[18]	
[19]	Gandalf   gandalf@email.com
[...]	
[29]	John   johnsnow@email.com
[...]	

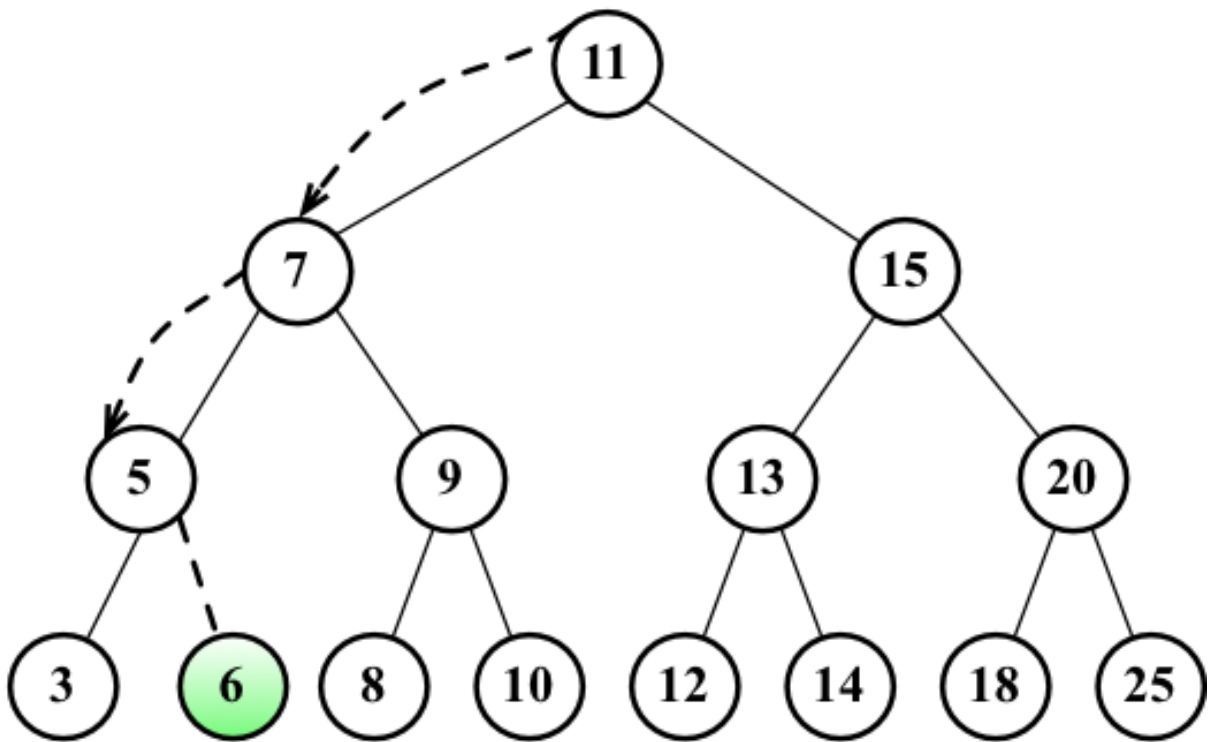
## Chapter 8: Trees

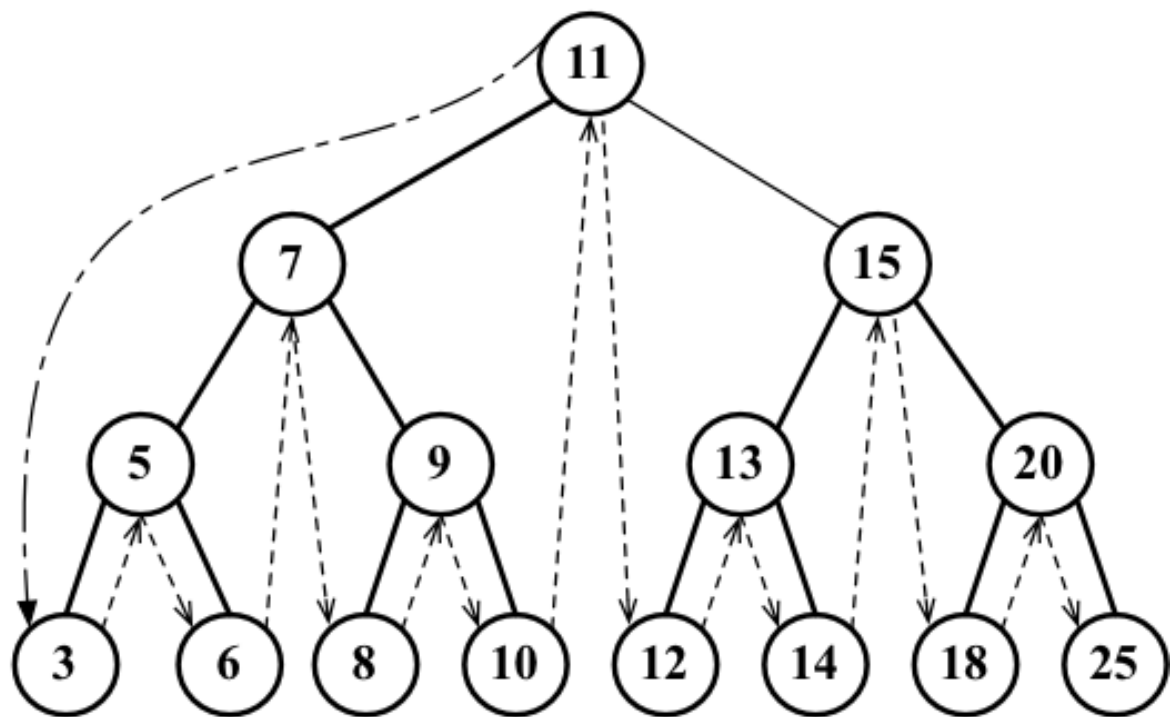


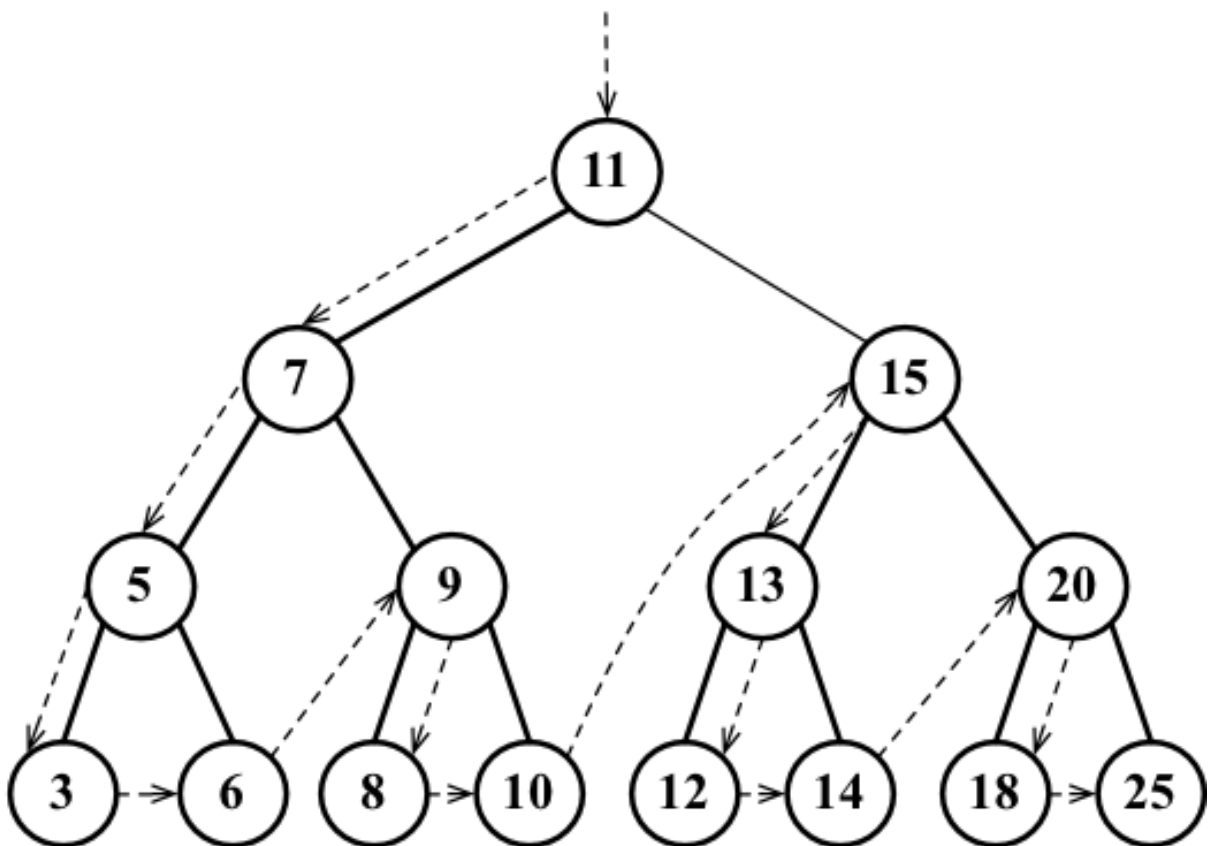


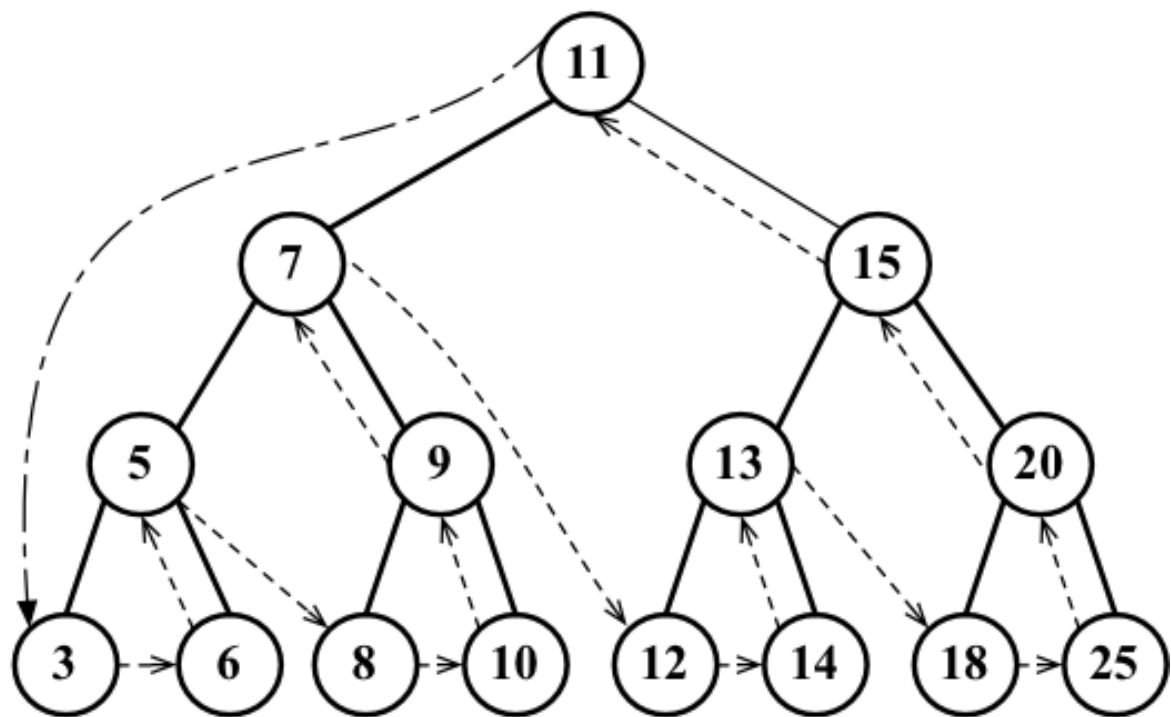


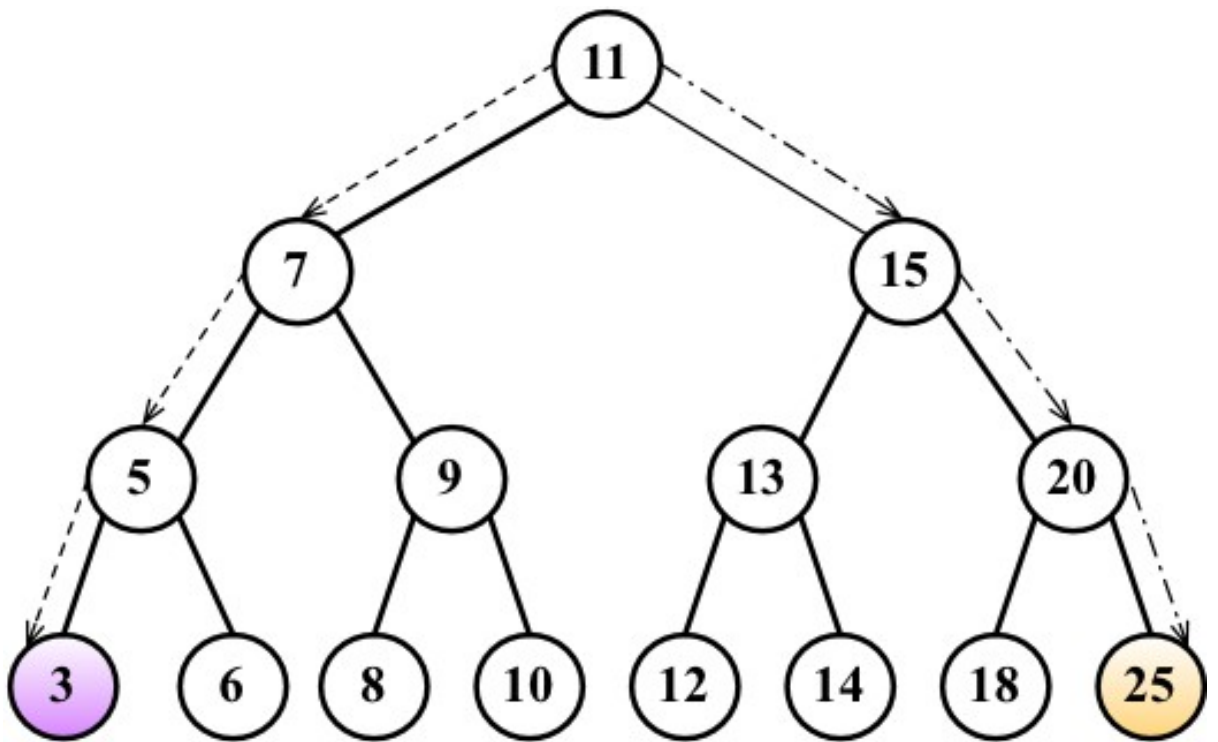


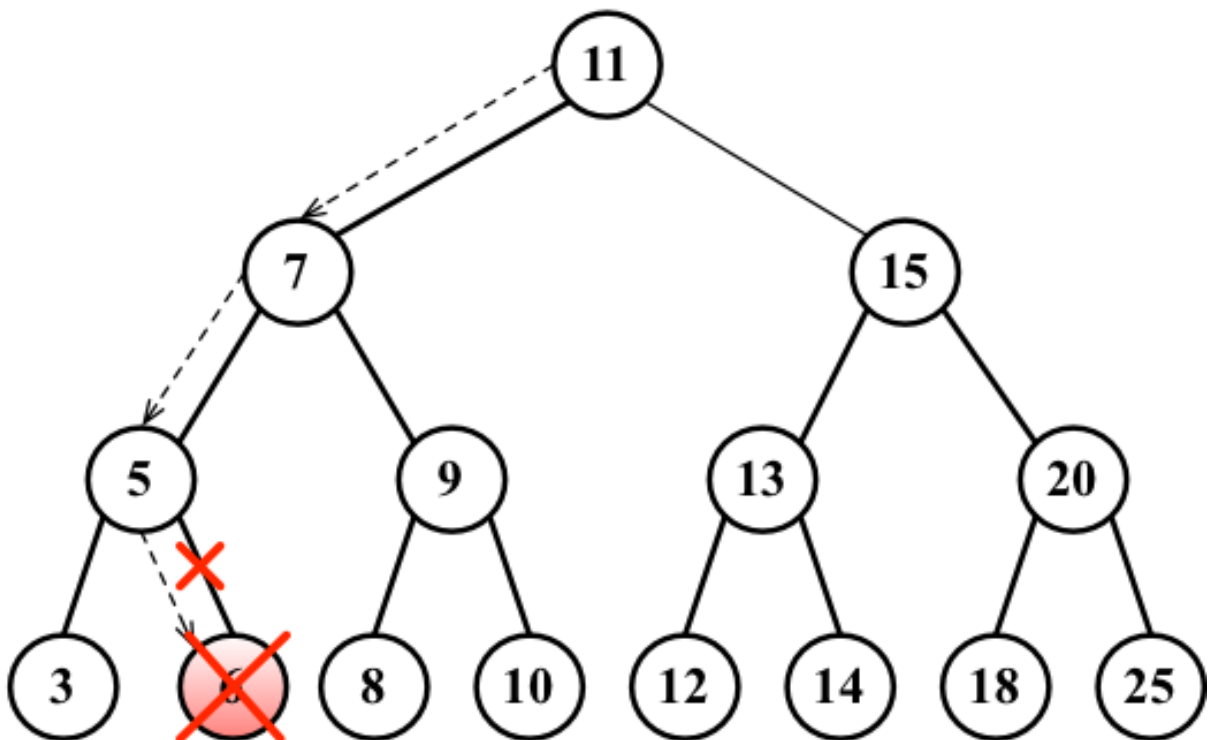




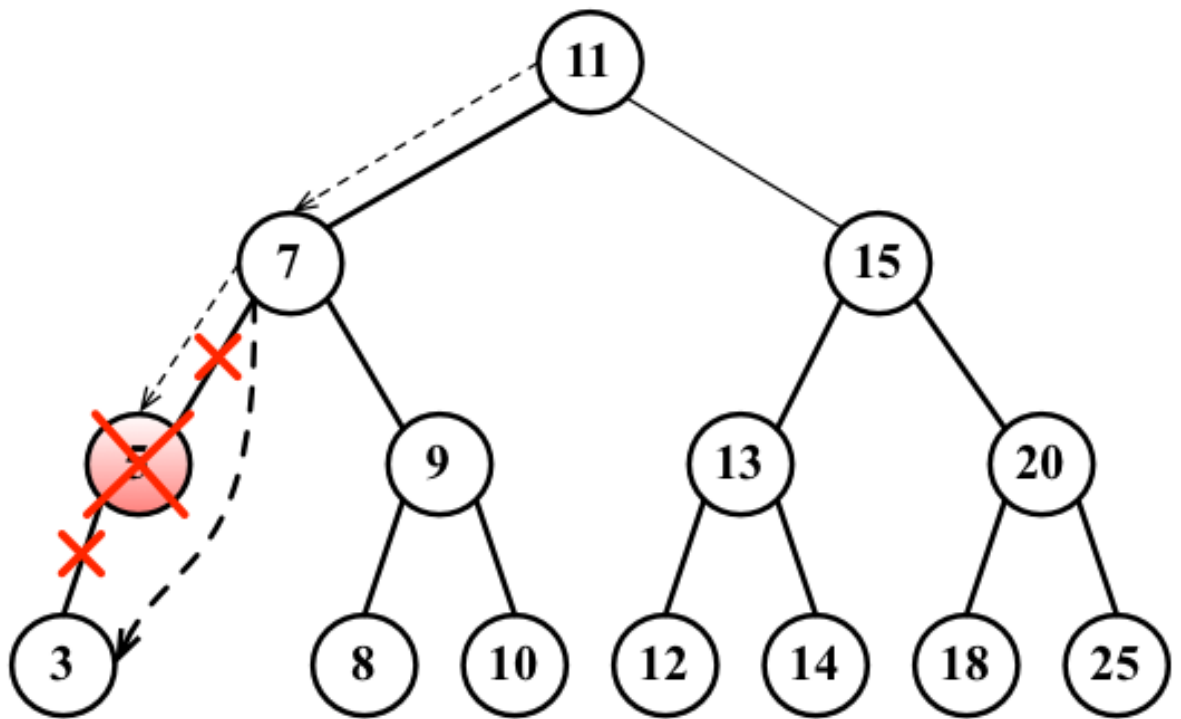


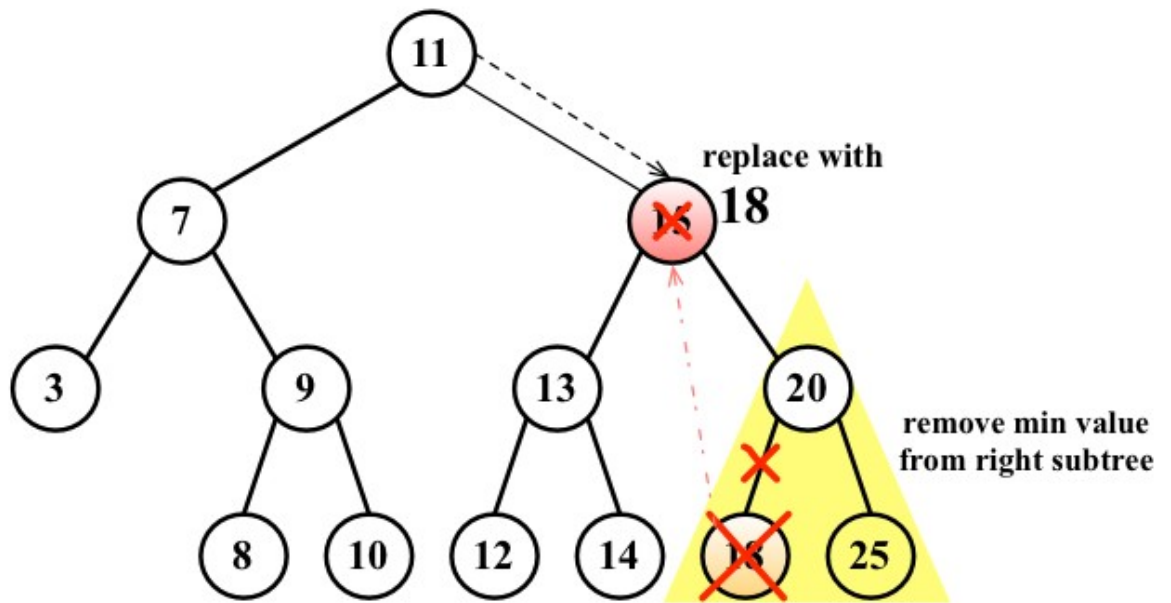


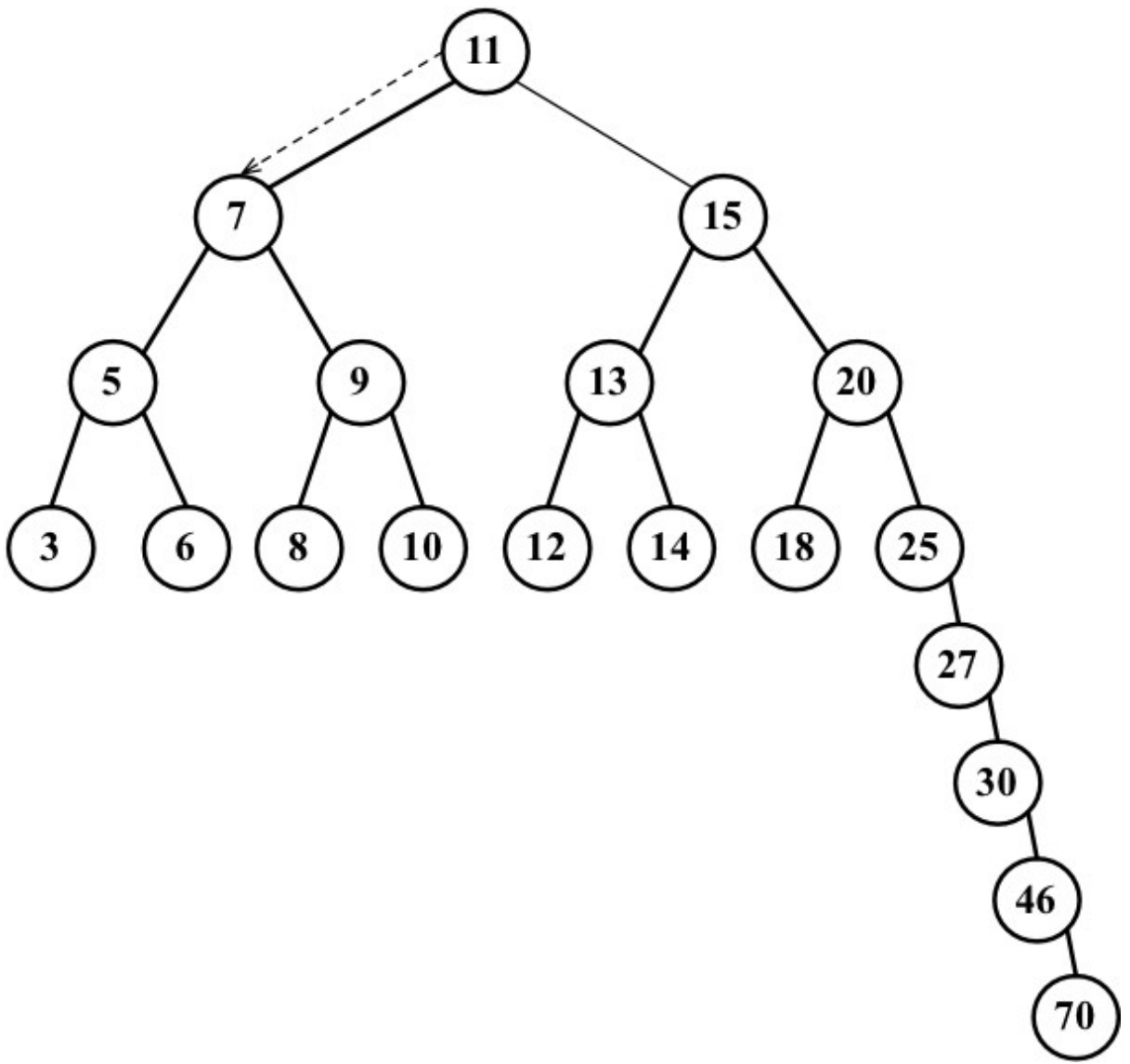


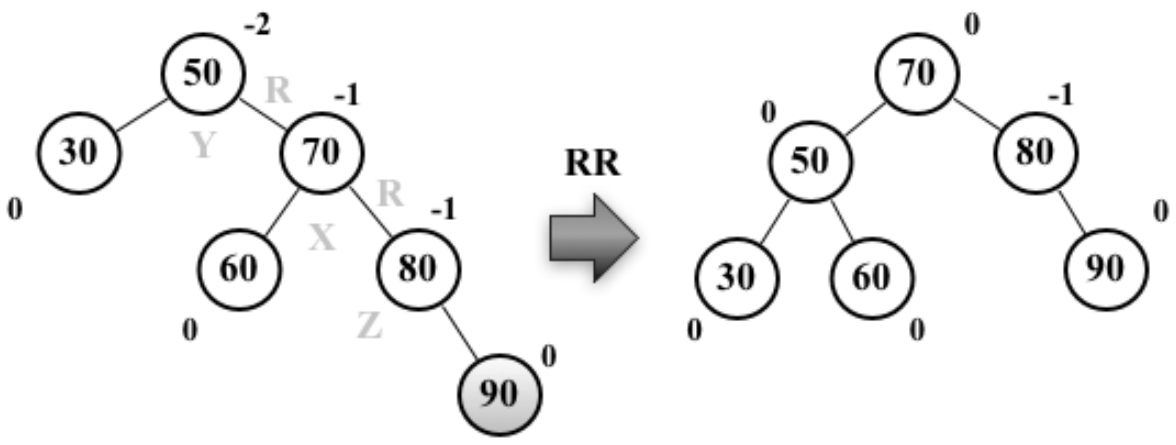
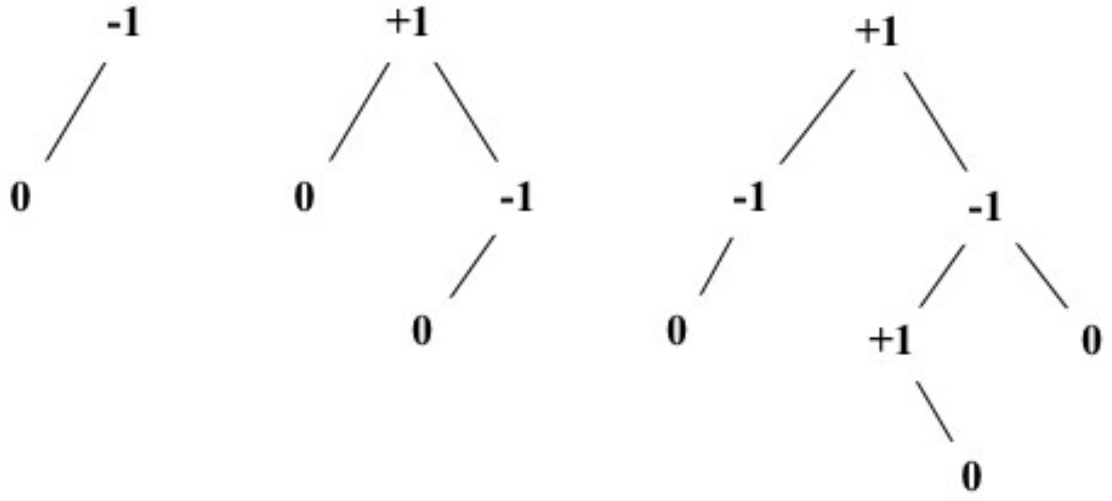


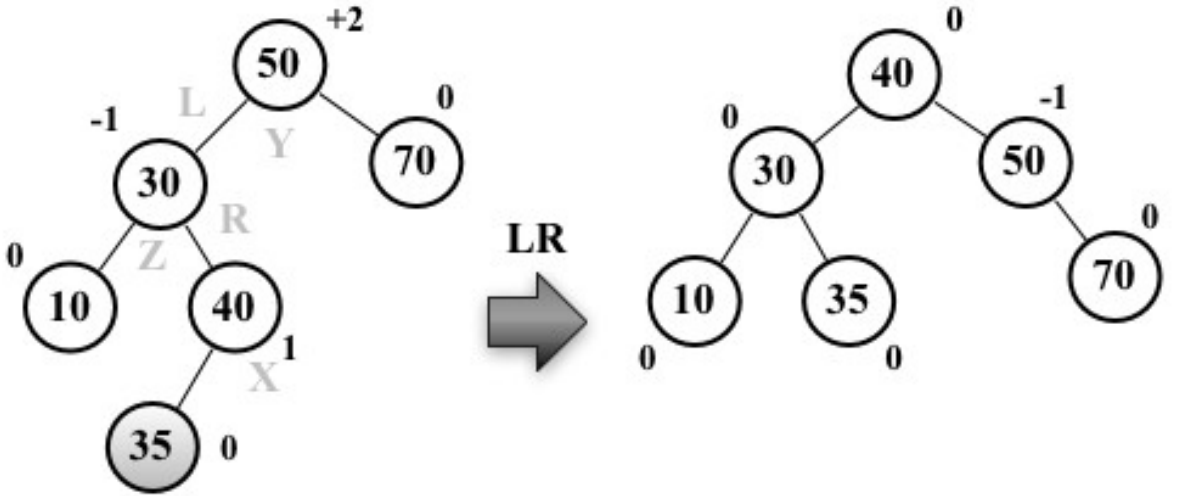
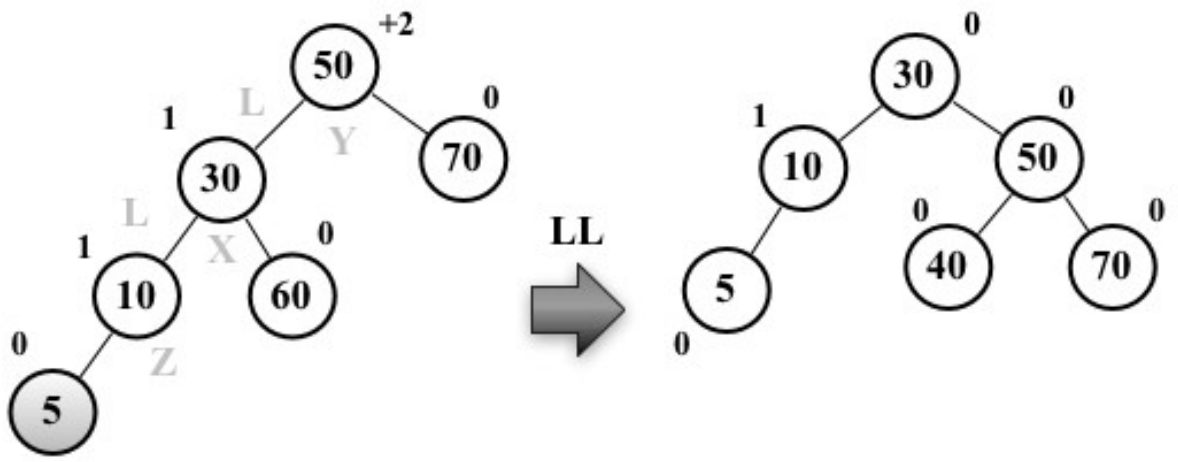


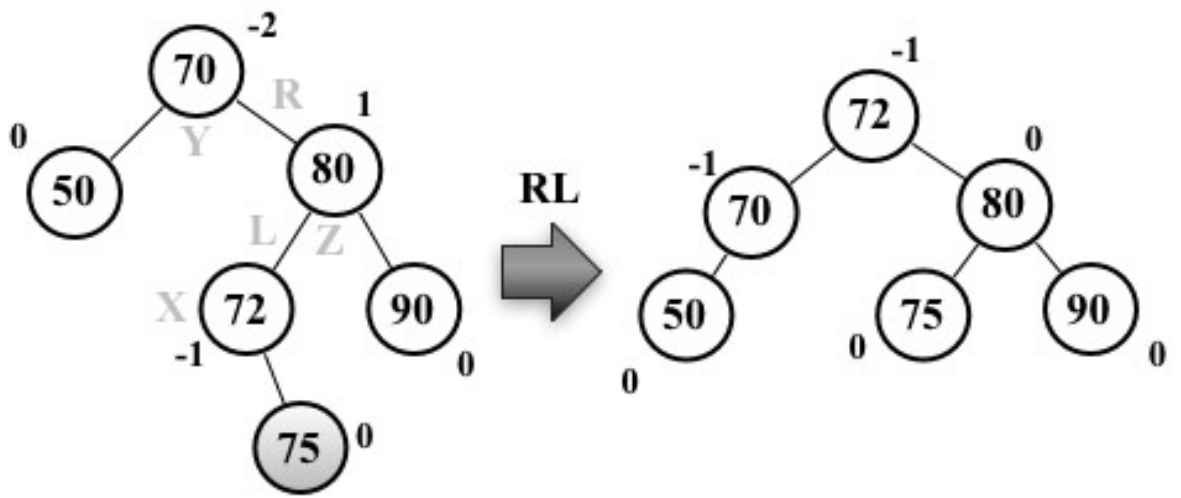




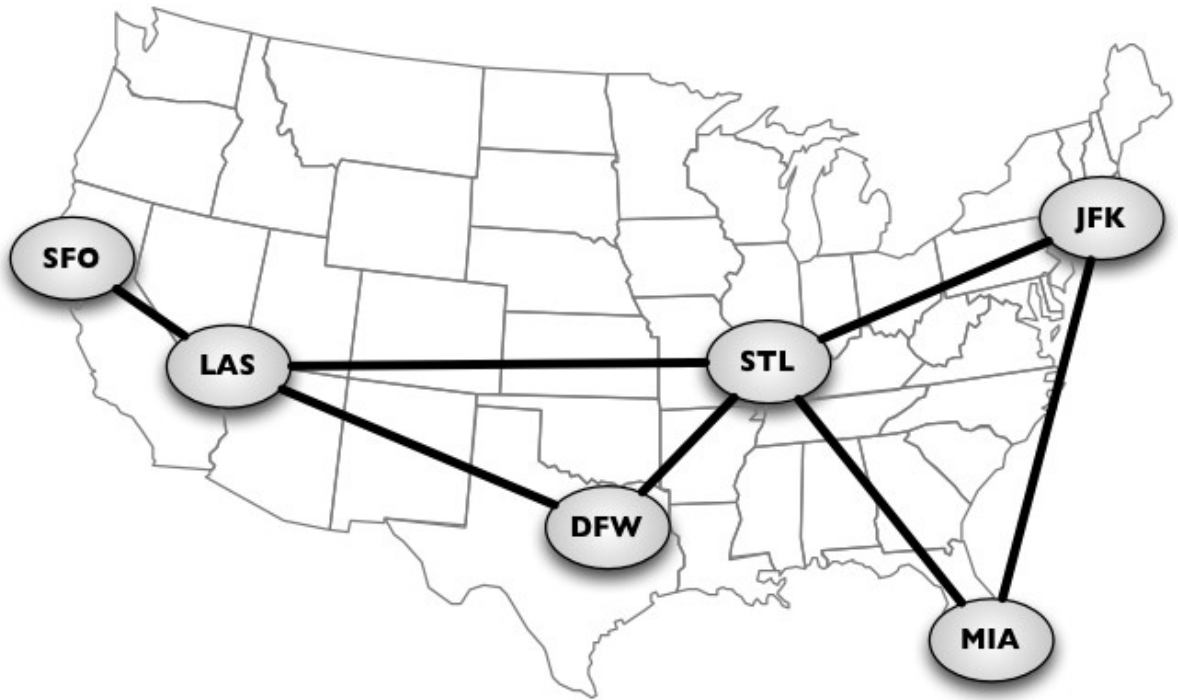


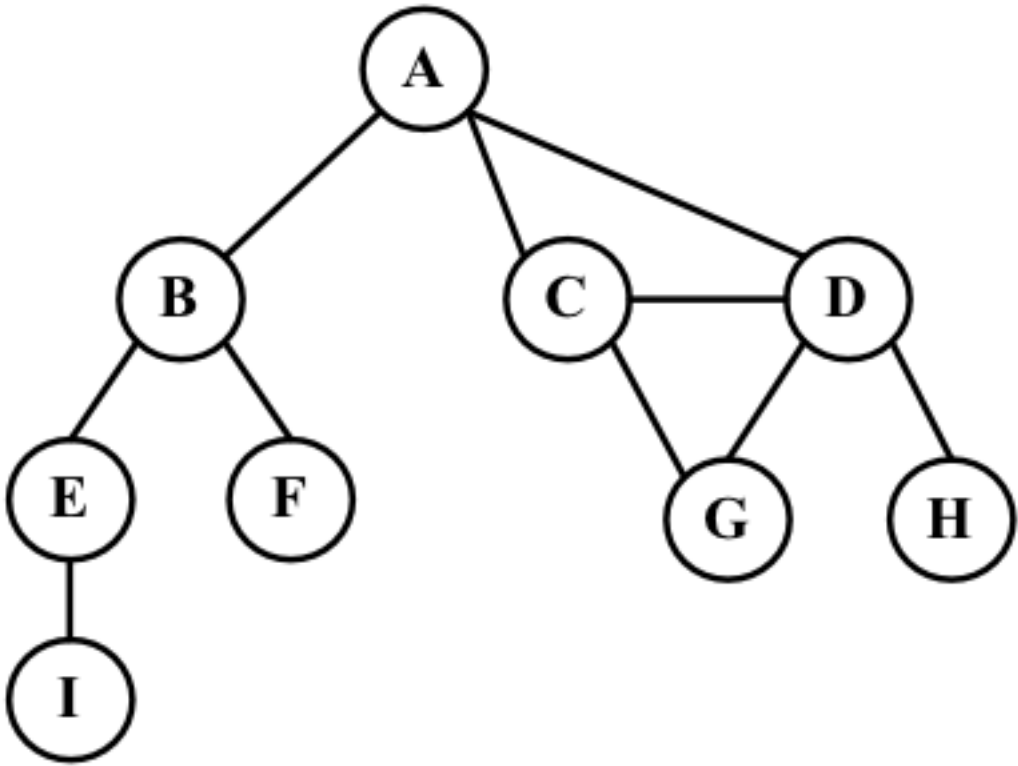




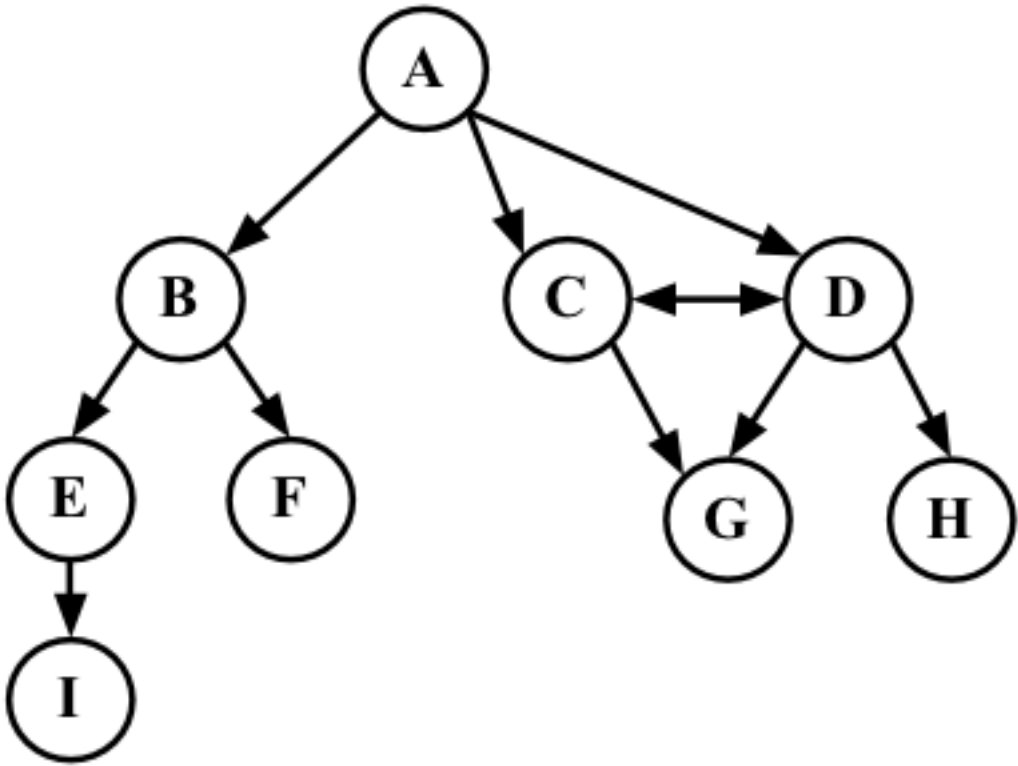


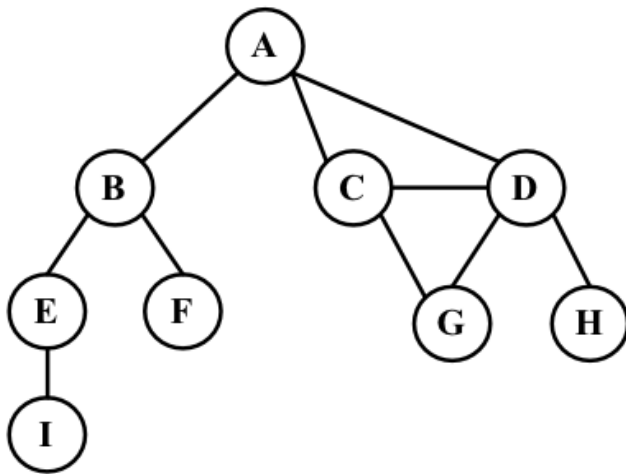
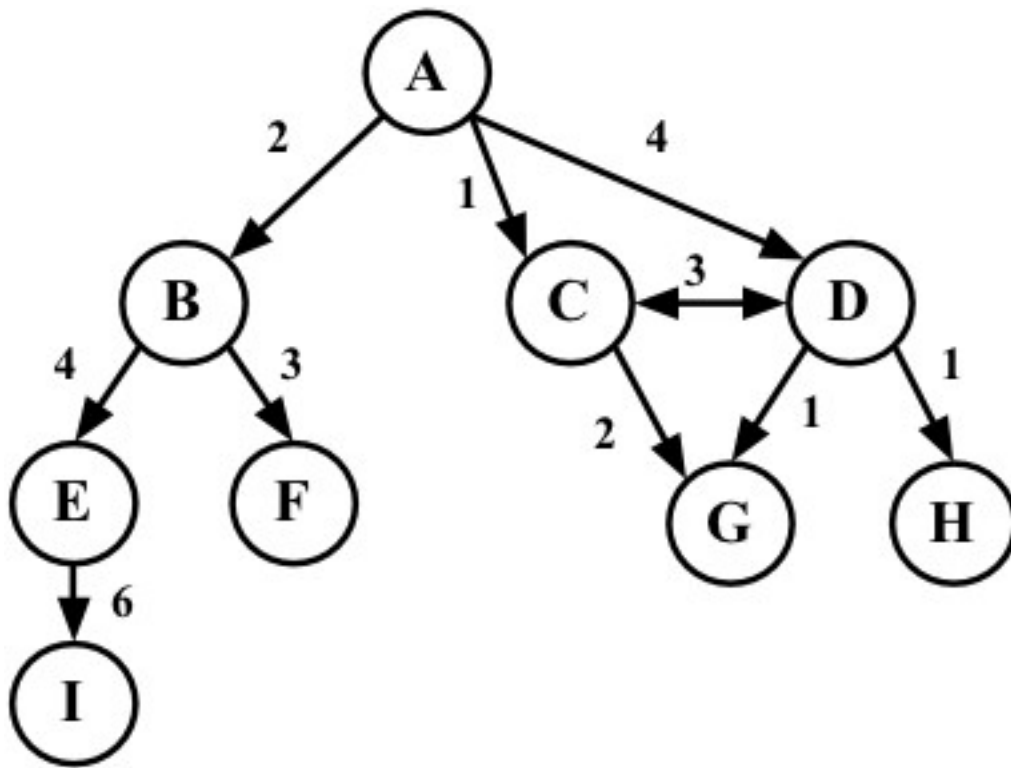
## Chapter 9: Graphs



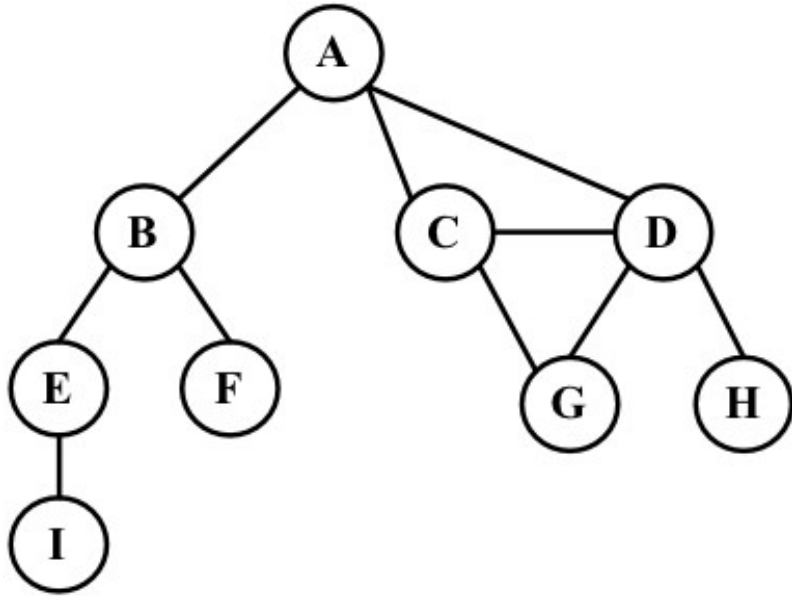




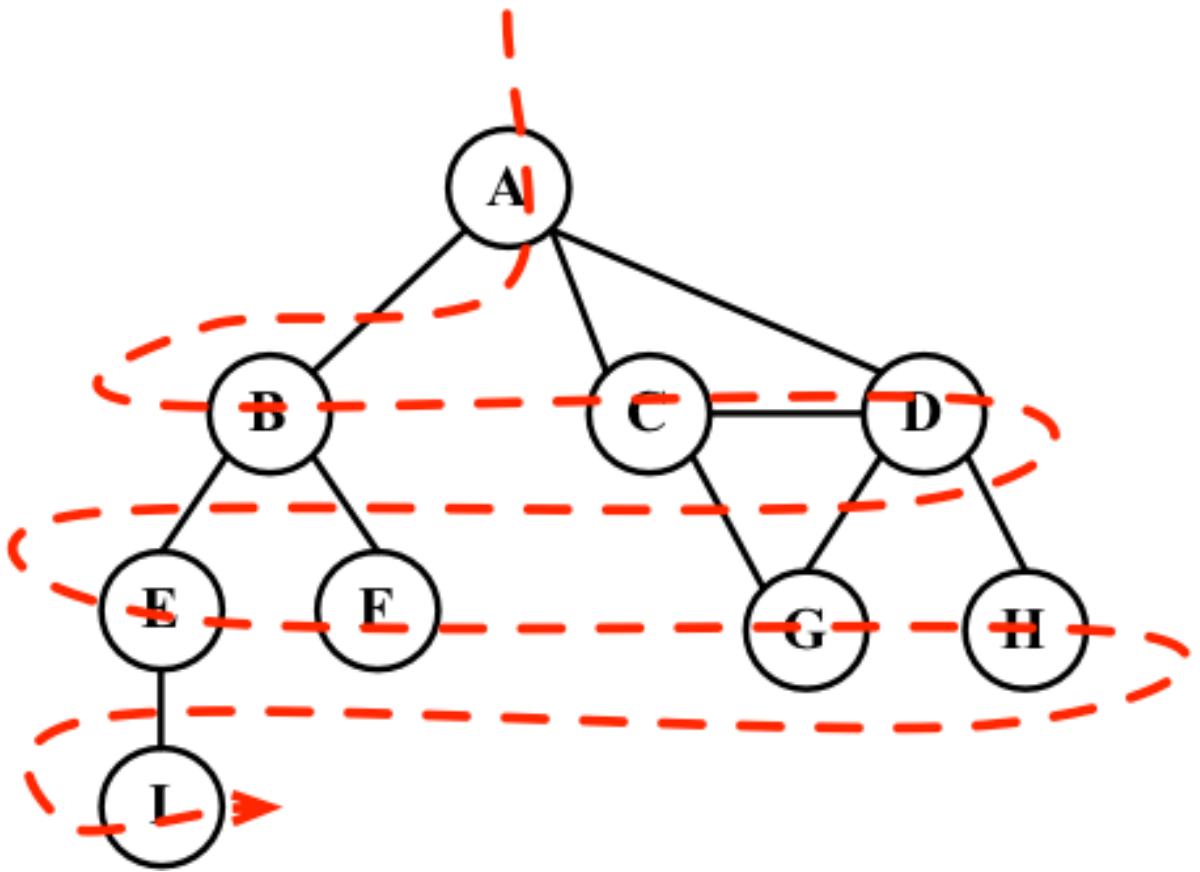


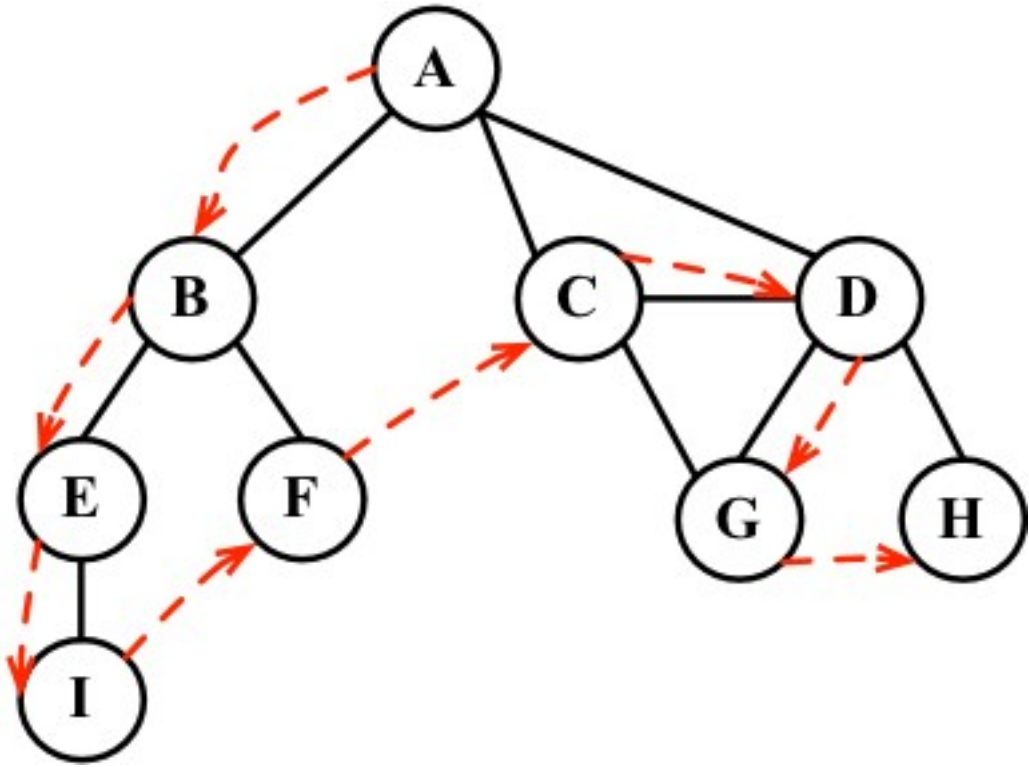


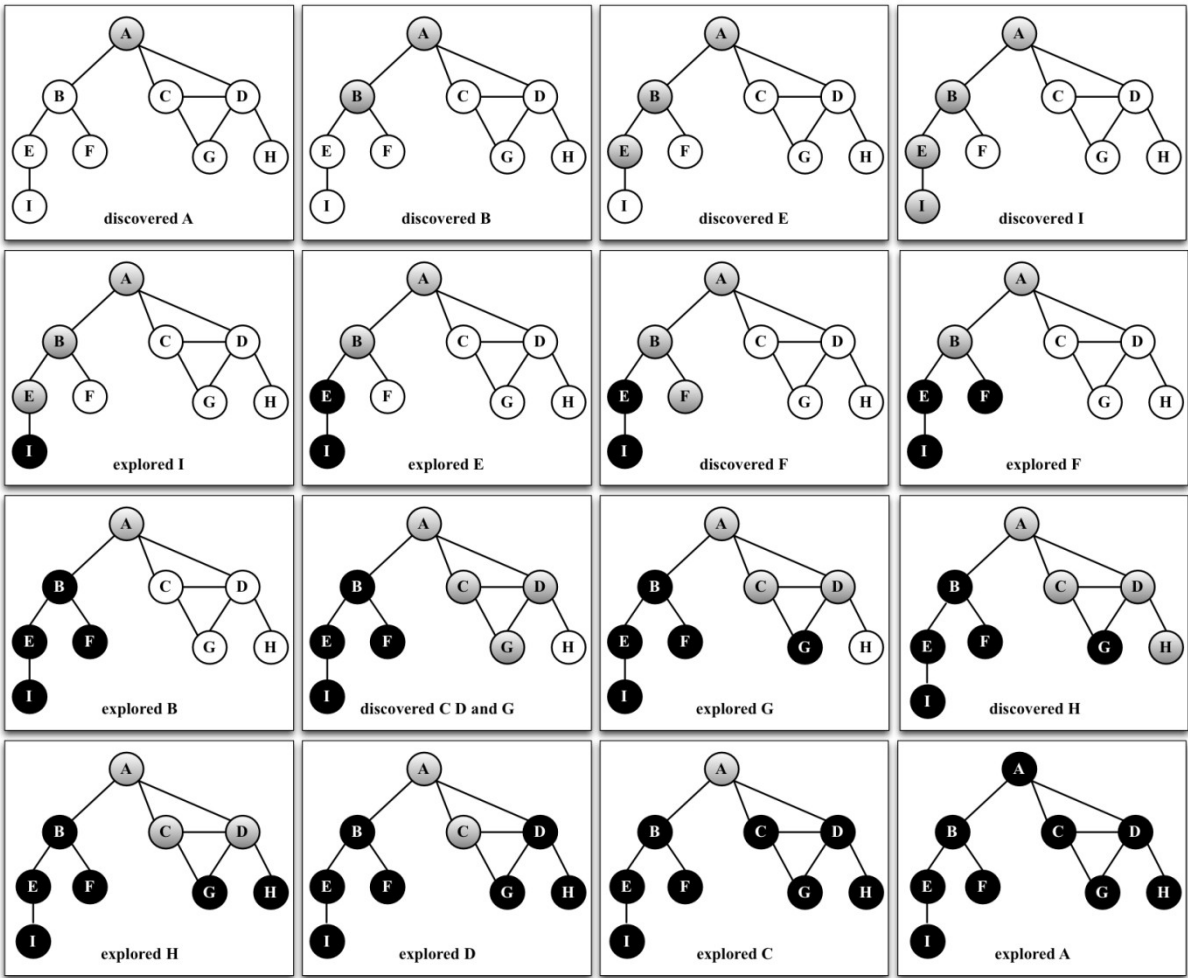
	A	B	C	D	E	F	G	H	I
A	0	1	1	1	0	0	0	0	0
B	1	0	0	0	1	1	0	0	0
C	1	0	0	1	0	0	1	0	0
D	1	0	1	0	0	0	1	1	0
E	0	1	0	0	0	0	0	0	1
F	0	1	0	0	0	0	0	0	0
G	0	0	1	1	0	0	0	0	0
H	0	0	0	1	0	0	0	0	0
I	0	0	0	0	1	0	0	0	0

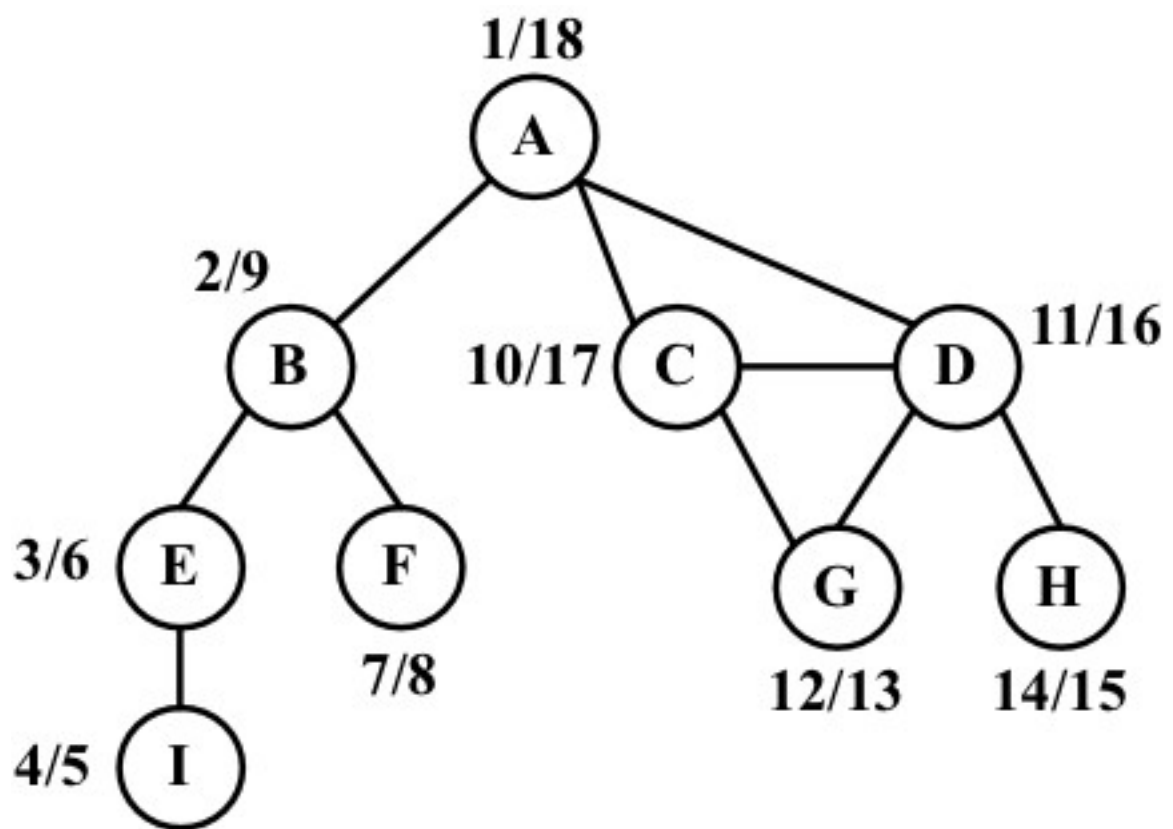


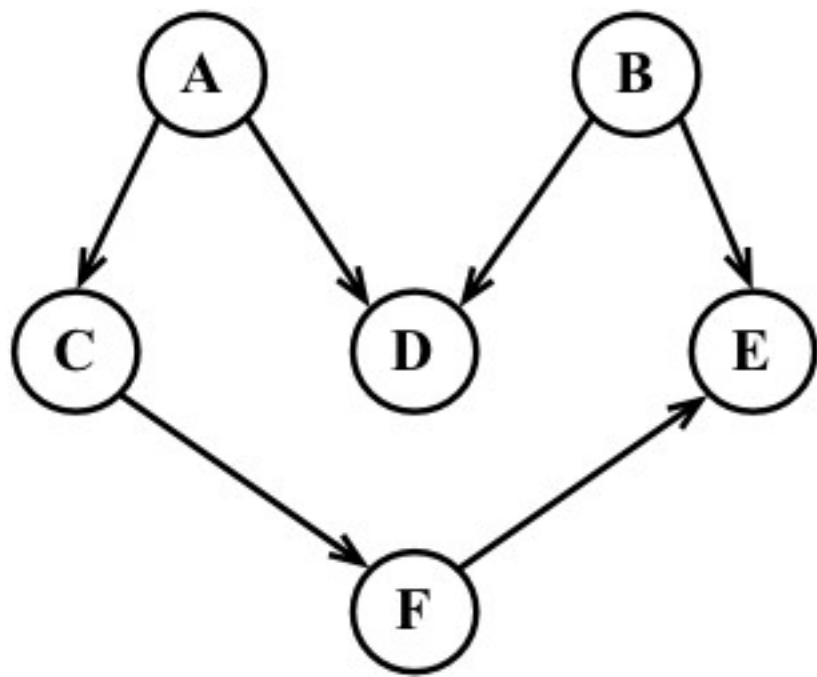
A	B	C	D	
B	A	E	F	
C	A	D	G	
D	A	C	G	H
E	B	I		
F	B			
G	C	D		
H	D			
I	E			



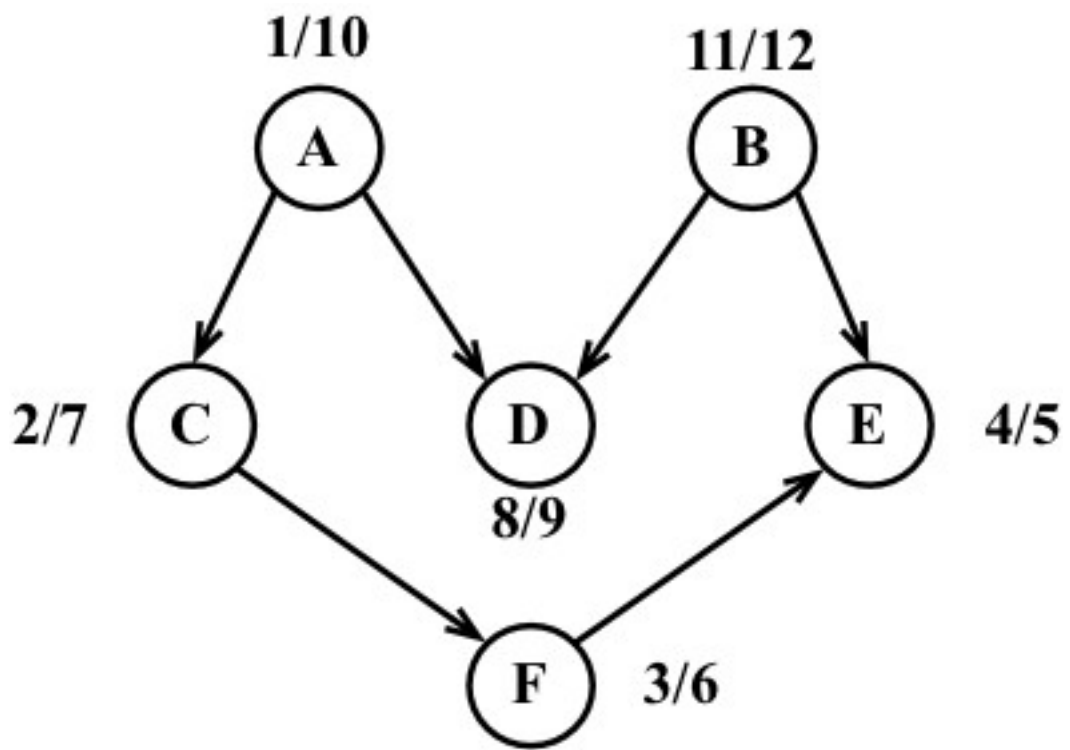












6751-6753 Hollywood Blvd x Loiane

https://www.google.com.br/maps/dir/34.1015602,-118.3374931/34.0907555,-118.3272037/@34.0957729,-118.3343824,15.09z...

6751-6753 Hollywood Blvd, Los Angeles

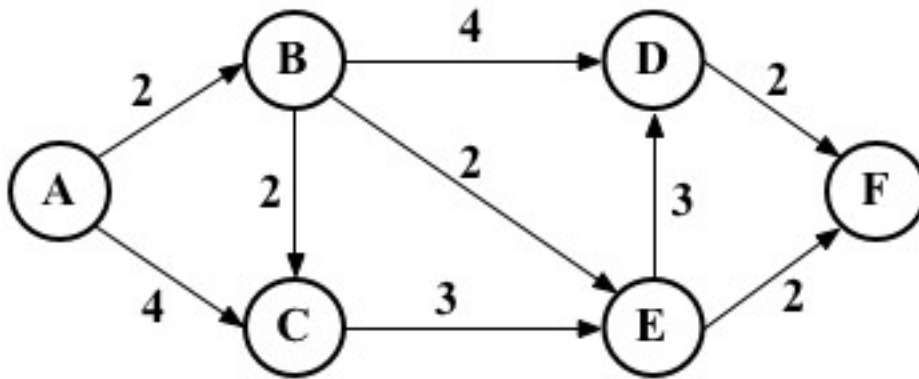
6315-6321 Santa Monica Blvd, Los Angeles

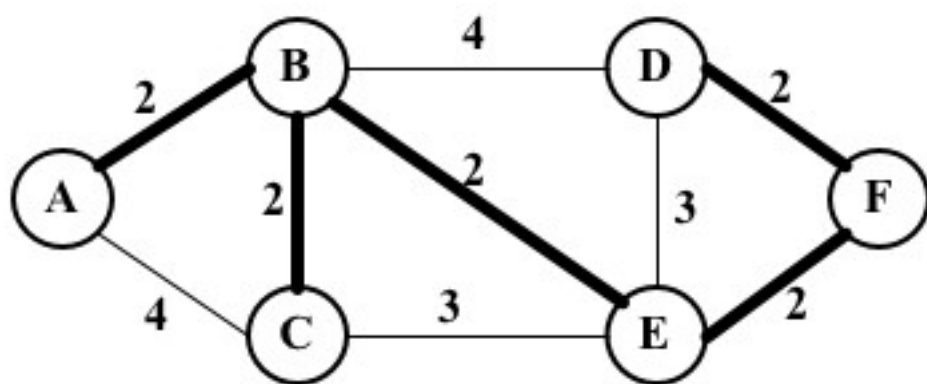
Leave now

**OPTIONS**

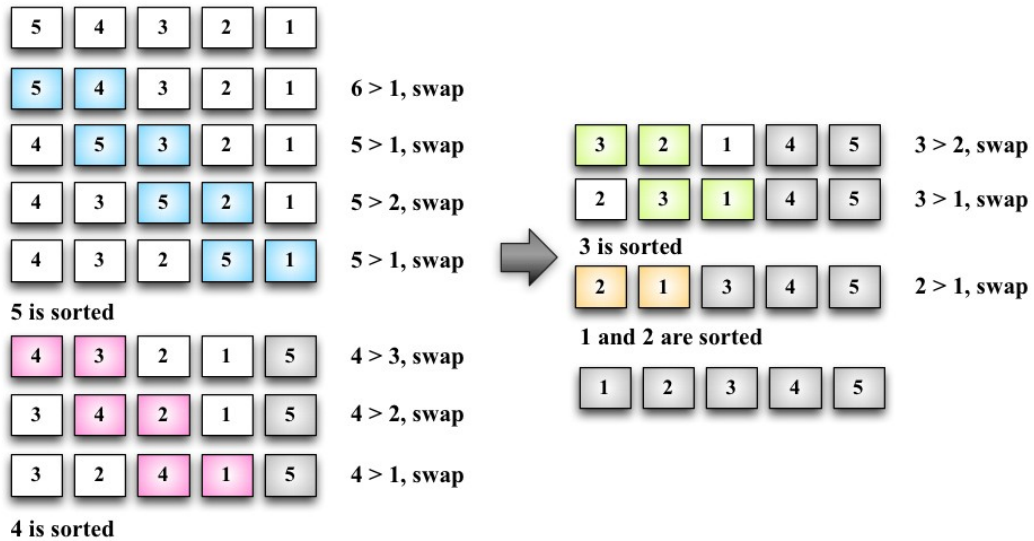
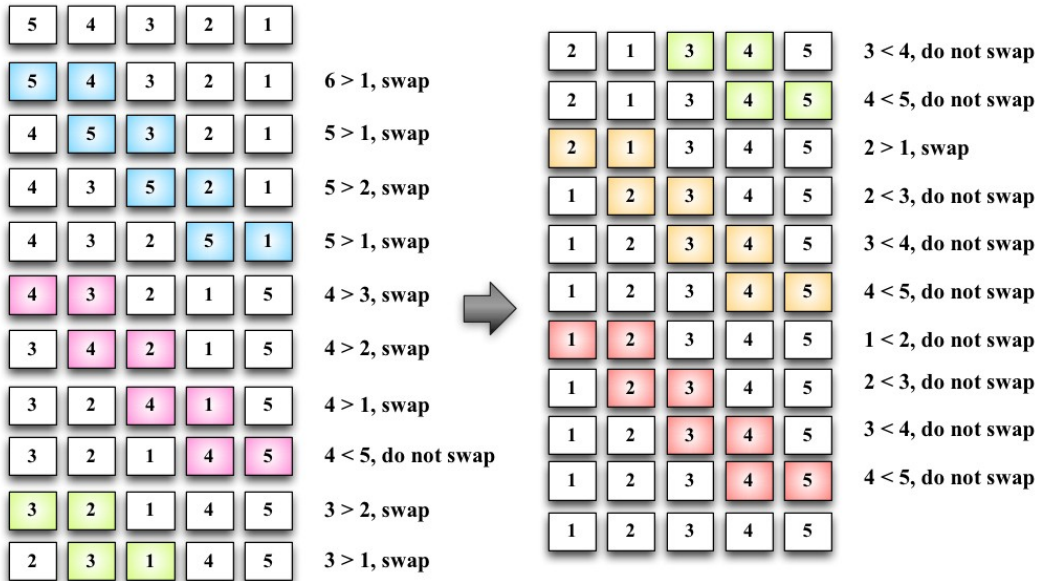
- via Hollywood Blvd and N Cahuenga Blvd
  - 5 min
  - 1.3 miles
  - 5 min without traffic
  - [DETAILS](#)
- via Seward St
  - 5 min
  - 1.4 miles
  - 6 min without traffic
- via Hollywood Blvd and Wilcox Ave
  - 6 min
  - 1.3 miles
  - 6 min without traffic

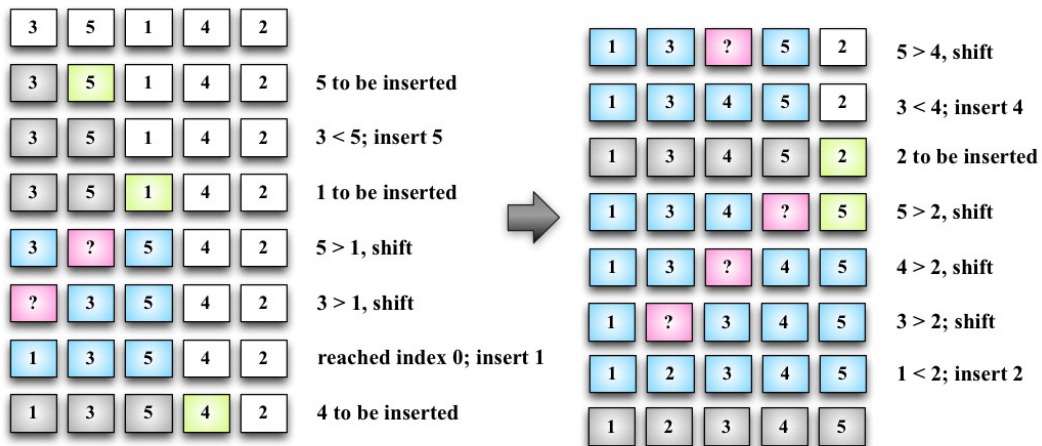
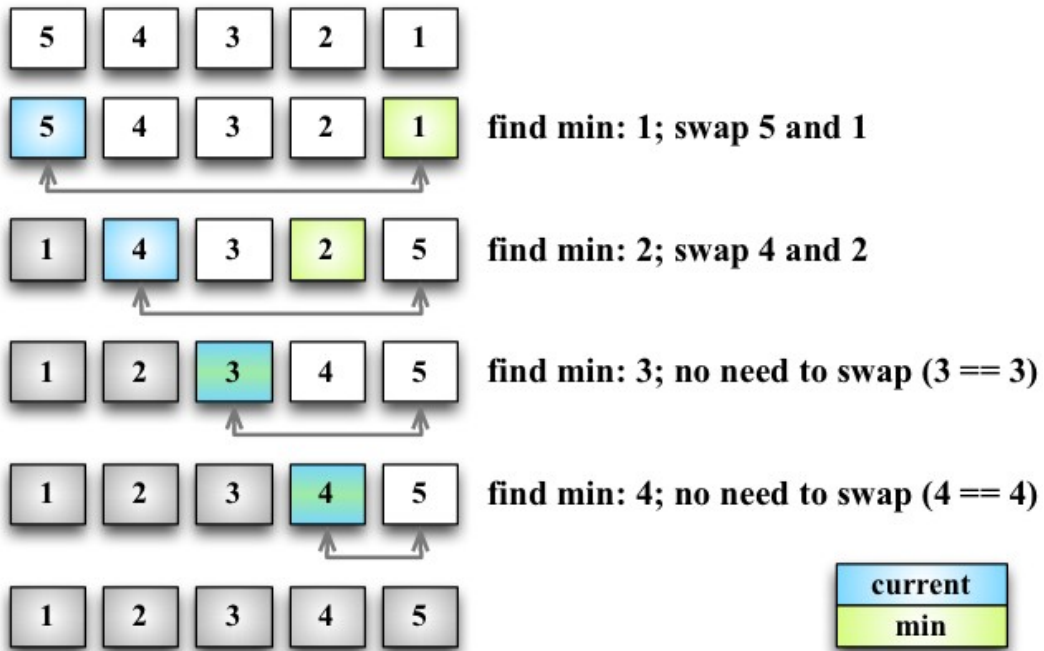
Map data ©2016 Google Terms Privacy Send feedback 200 m

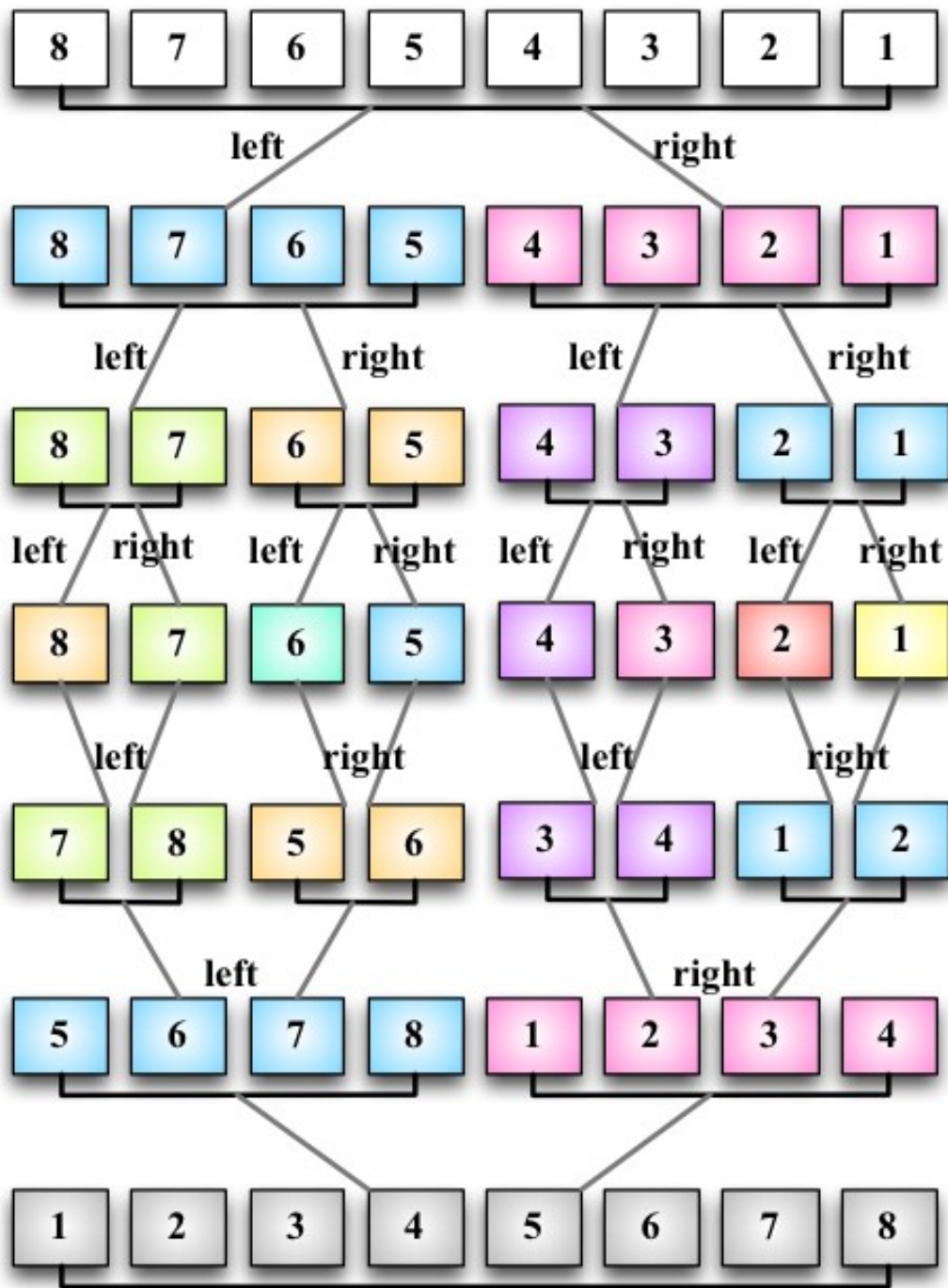




## Chapter 10: Sorting and Searching Algorithms









pivot = 6  
set pointer left (i) and right (j)



3 < 6, shift left pointer



5 < 6, shift left pointer



1 < 6, shift left pointer



6 = 6, stop  
6 > 2, stop  
swap 6 and 2  
shift pointers



4 < 6, shift left pointer

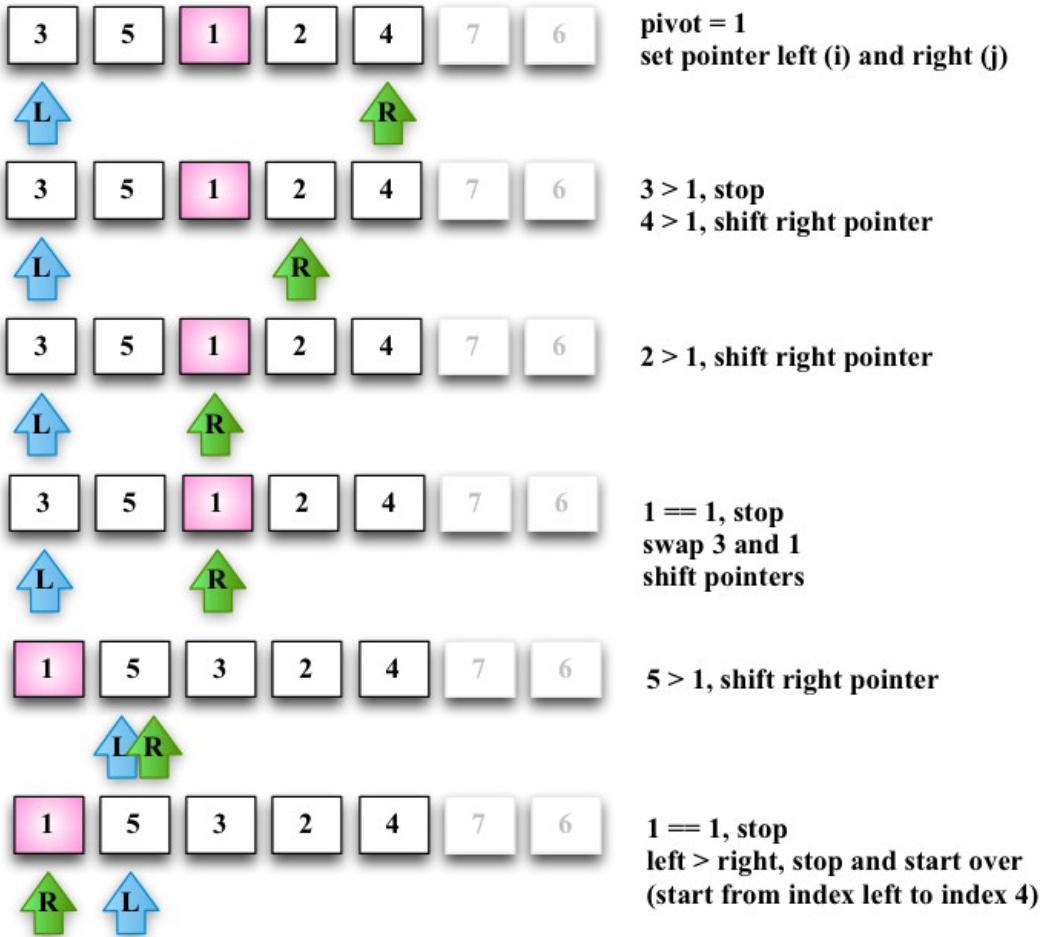


7 > 6, stop (left pointer)  
7 > 6, shift right pointer

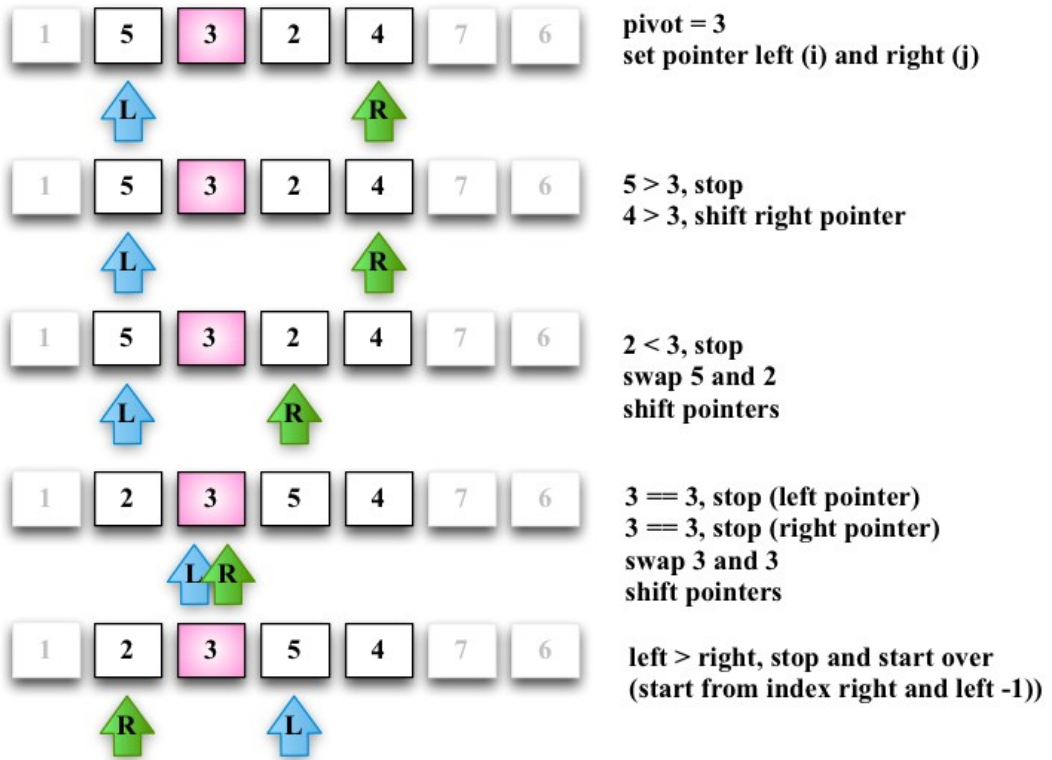


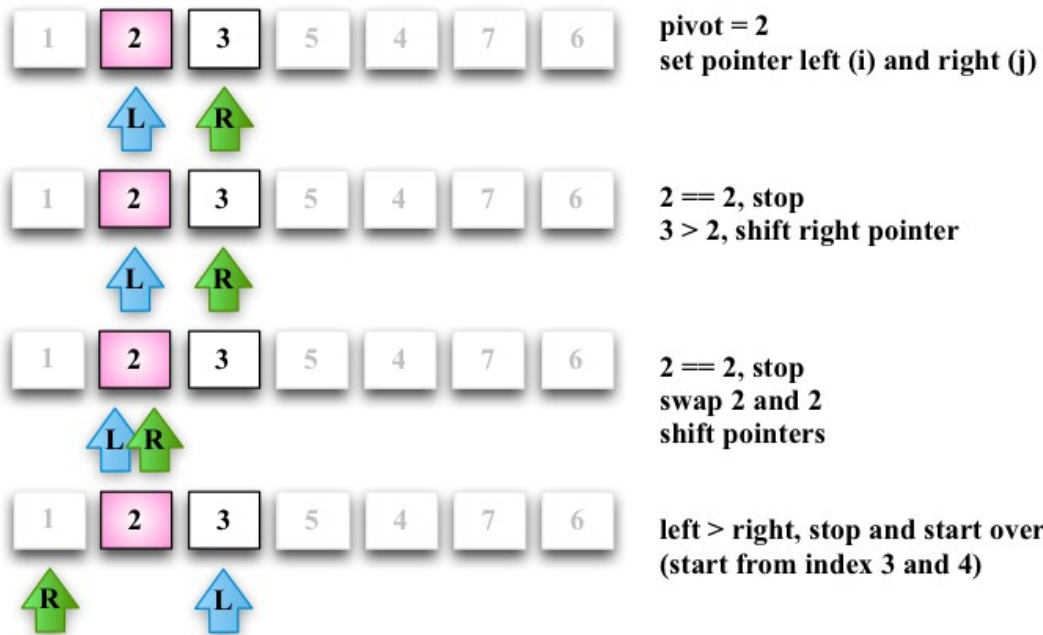
4 < 6, stop  
left > right, stop and start over  
(start from index 0 to index left -1)

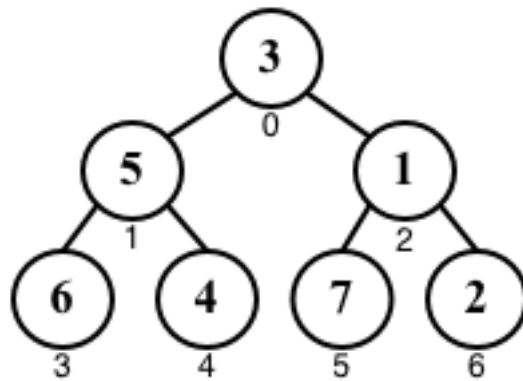
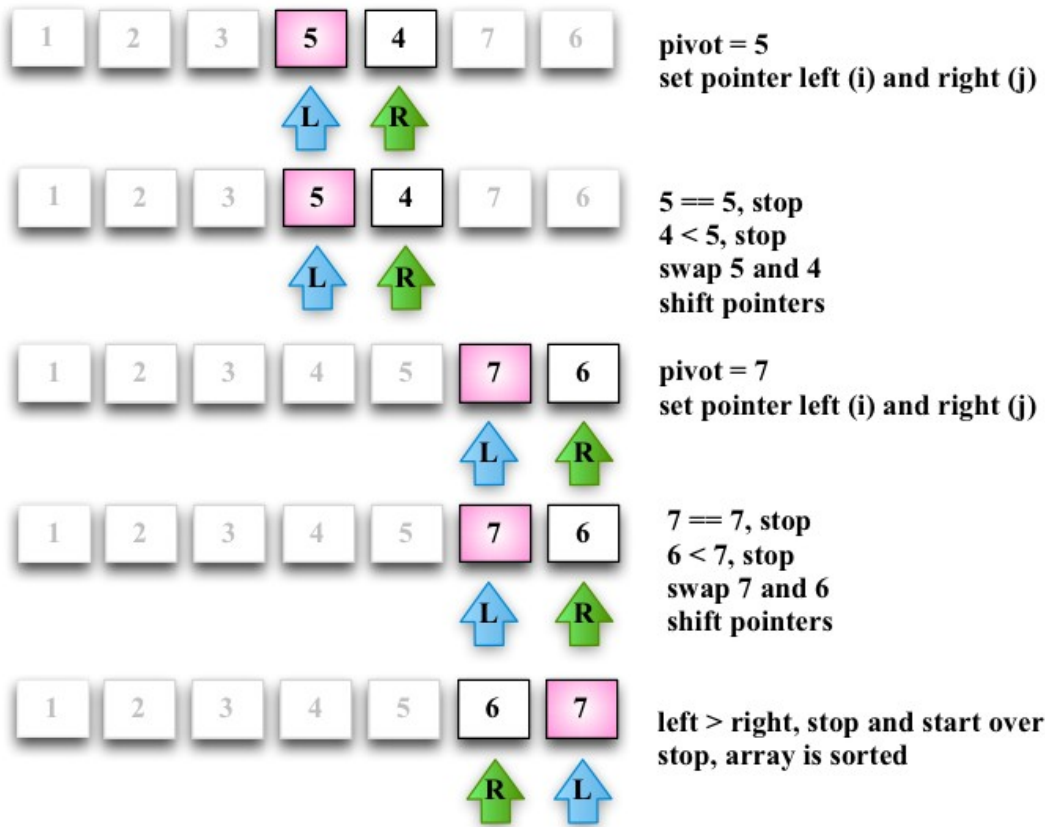


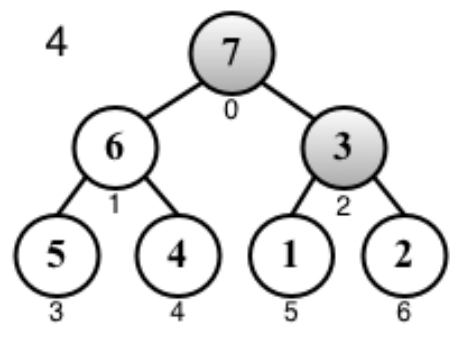
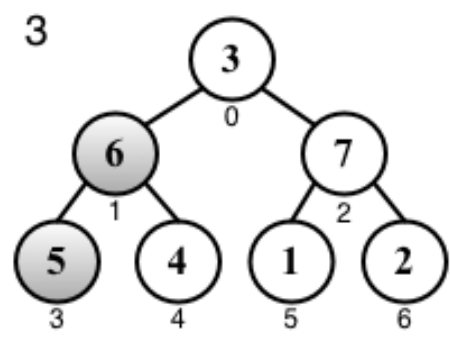
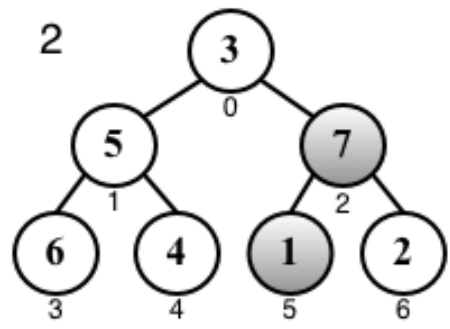
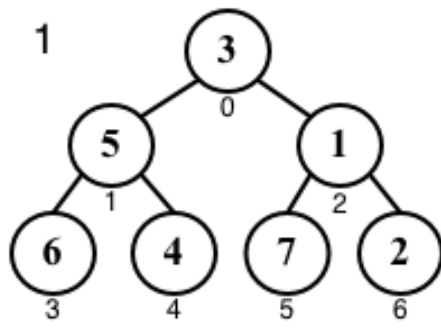


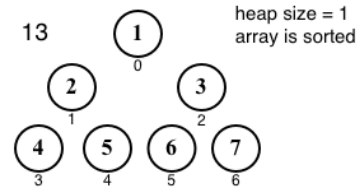
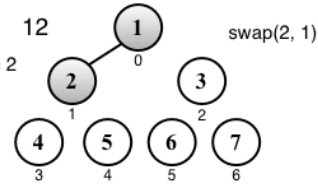
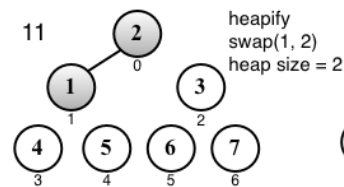
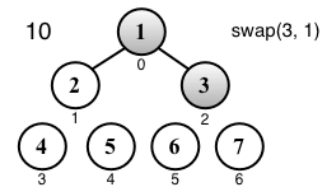
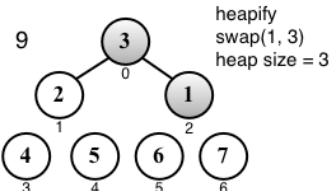
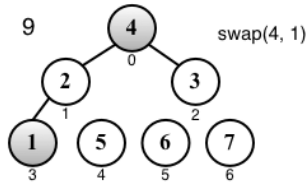
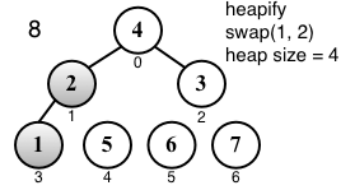
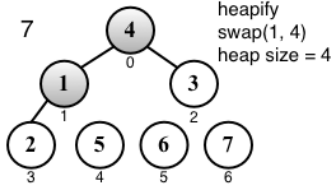
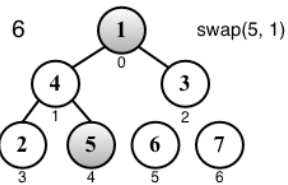
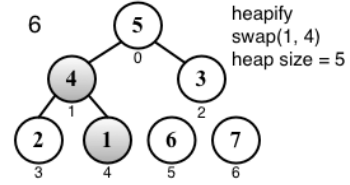
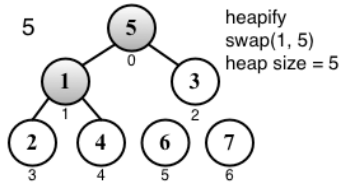
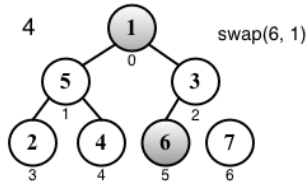
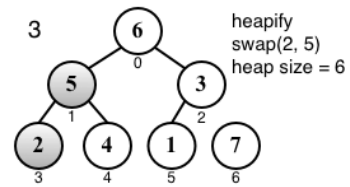
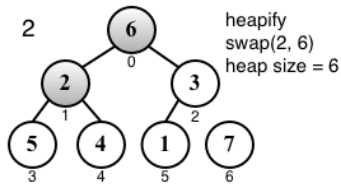
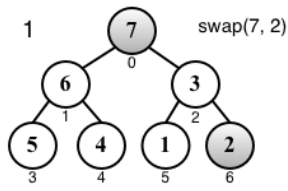


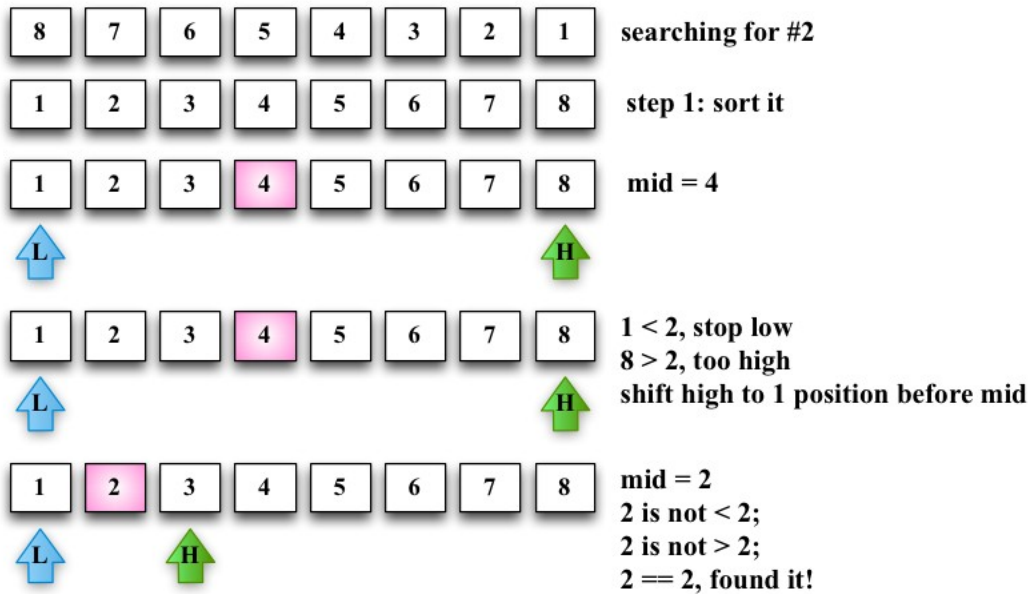
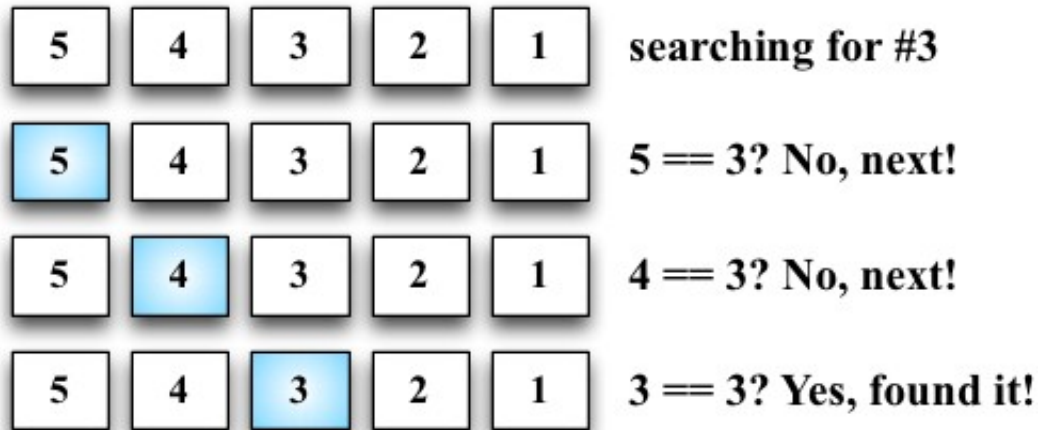




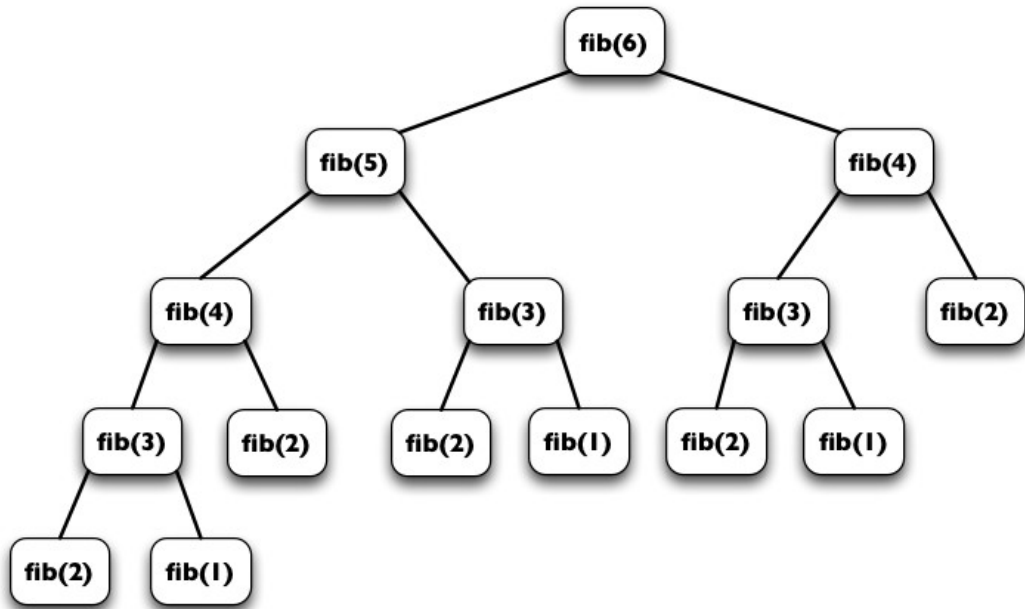








# Chapter 11: Patterns of Algorithm



**1**

i/w	0	1	2	3	4	5
0	0	0	0	0	0	0
1	0					
2	0					
3	0					

Items:  
 1: (2,3)  
 2: (3,4)  
 3: (4,5)

**2**

i/w	0	1	2	3	4	5
0	0	0	0	0	0	0
1	0	0	3	3	3	3
2	0					
3	0					

Items:  
 1: (2,3)  
 2: (3,4)  
 3: (4,5)

**3**

i/w	0	1	2	3	4	5
0	0	0	0	0	0	0
1	0	0	3	3	3	3
2	0	0	3	4	4	7
3	0					

Items:  
 1: (2,3)  
 2: (3,4)  
 3: (4,5)

**4**

i/w	0	1	2	3	4	5
0	0	0	0	0	0	0
1	0	0	3	3	3	3
2	0	0	3	4	4	7
3	0	0	3	4	5	7

Items:  
 1: (2,3)  
 2: (3,4)  
 3: (4,5)

string 1	a	c	b	a	e	d
string 2	a	b	c	a	d	f

LCS: "acad" with length 4

		a	b	c	a	d	f
	0	0	0	0	0	0	0
a	0	1	1	1	1	1	1
c	0	1	1	2	2	2	2
b	0	1	2	2	2	2	2
a	0	1	2	2	3	3	3
e	0	1	2	2	3	3	3
d	0	1	2	2	3	4	4



$$36 - 25 = 11$$



$$11 - 10 = 1$$



$$1 - 1 = 0$$



## Chapter 12: Algorithm Complexity

