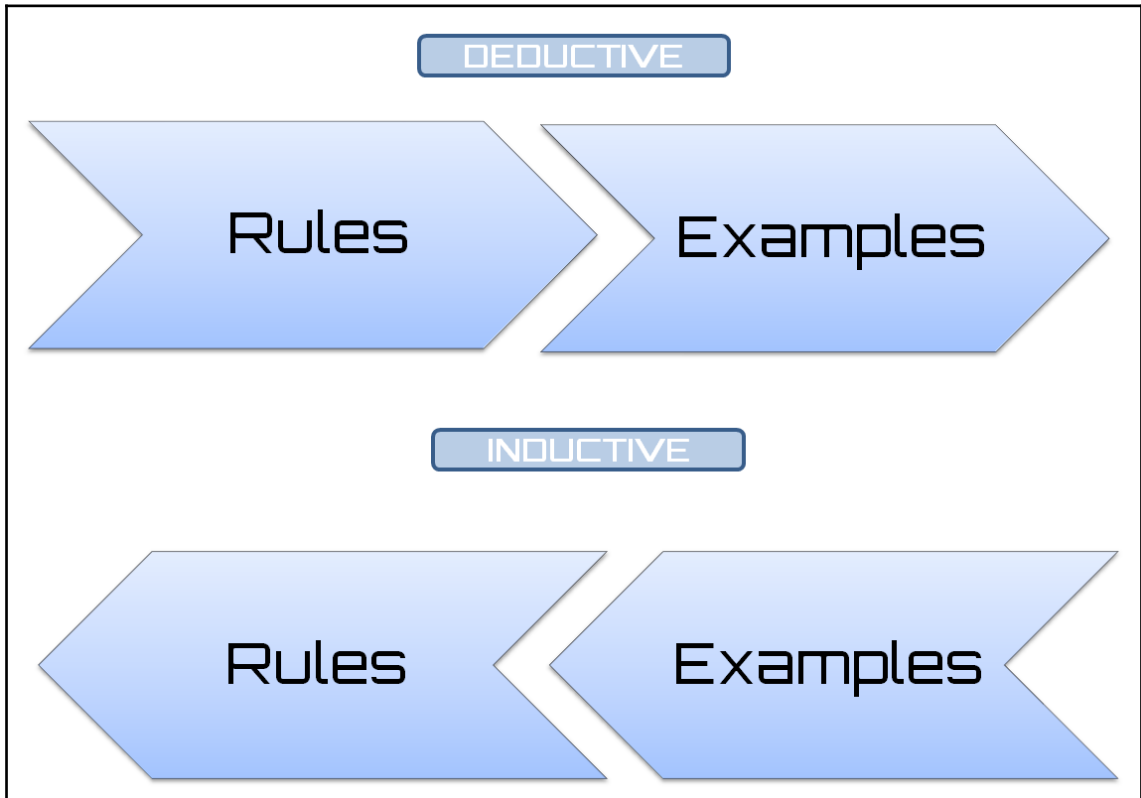
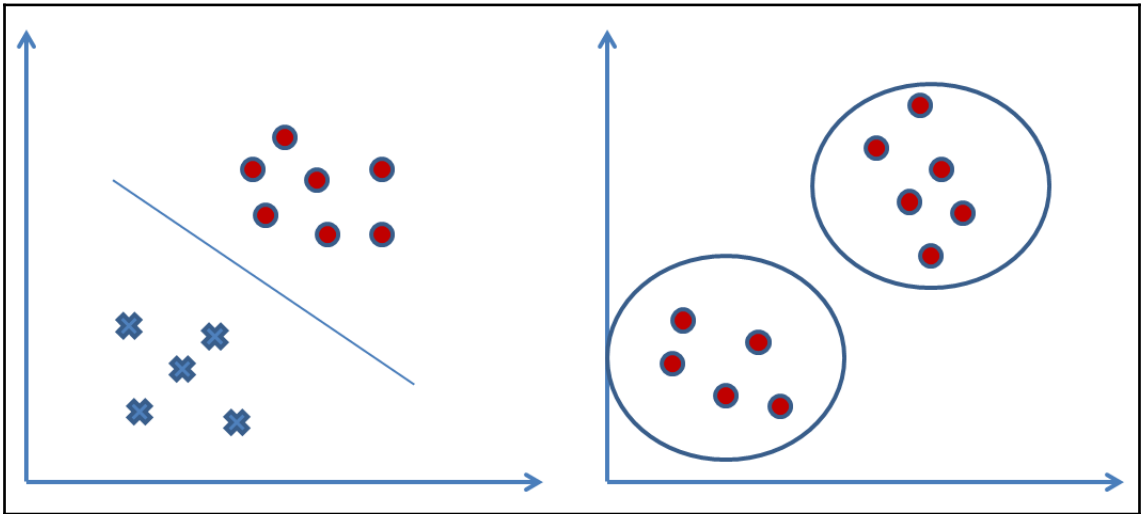
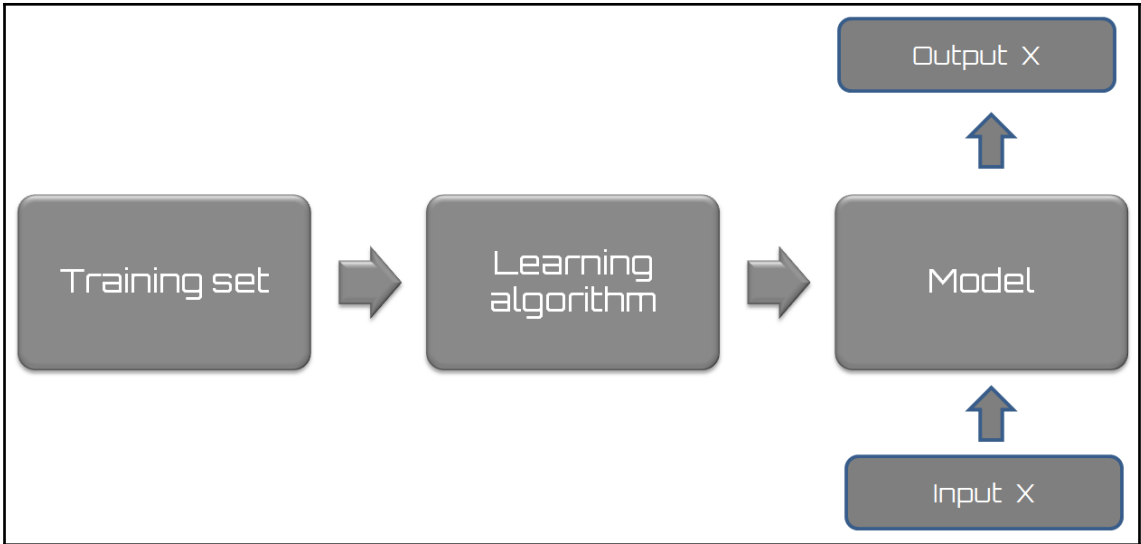
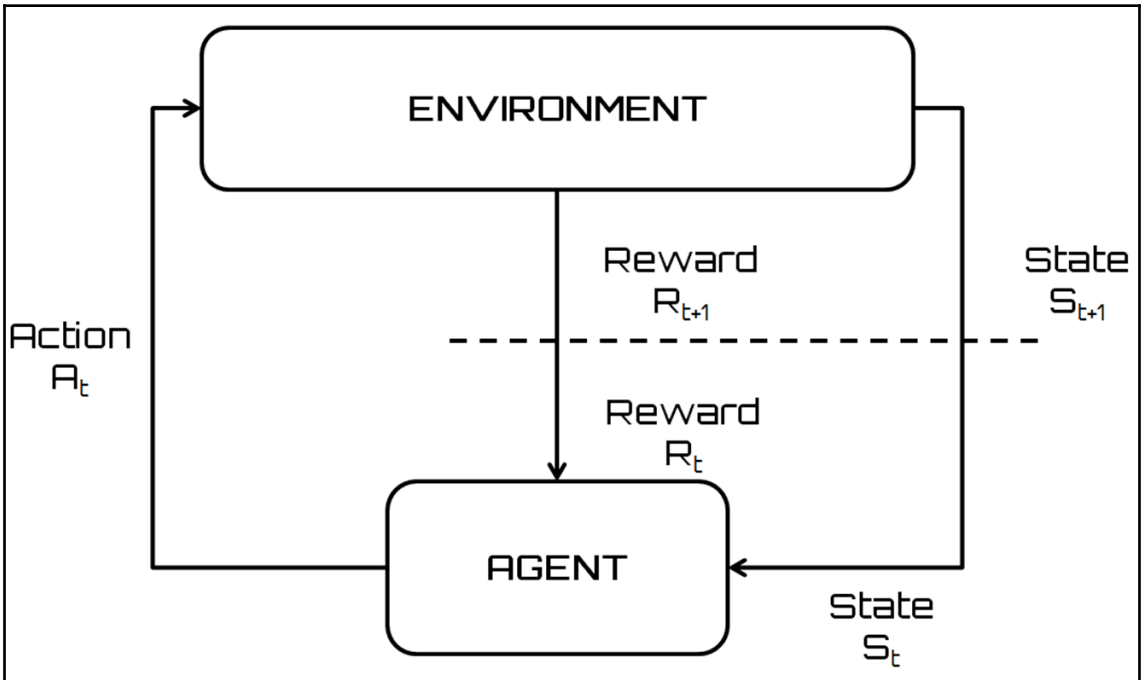
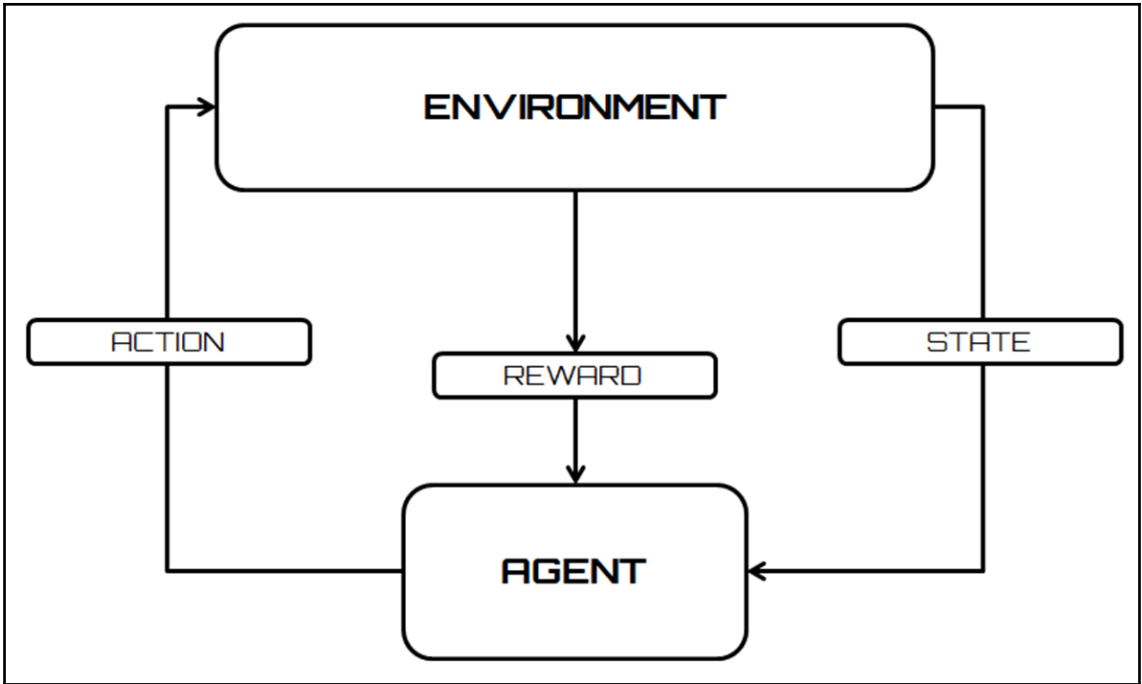
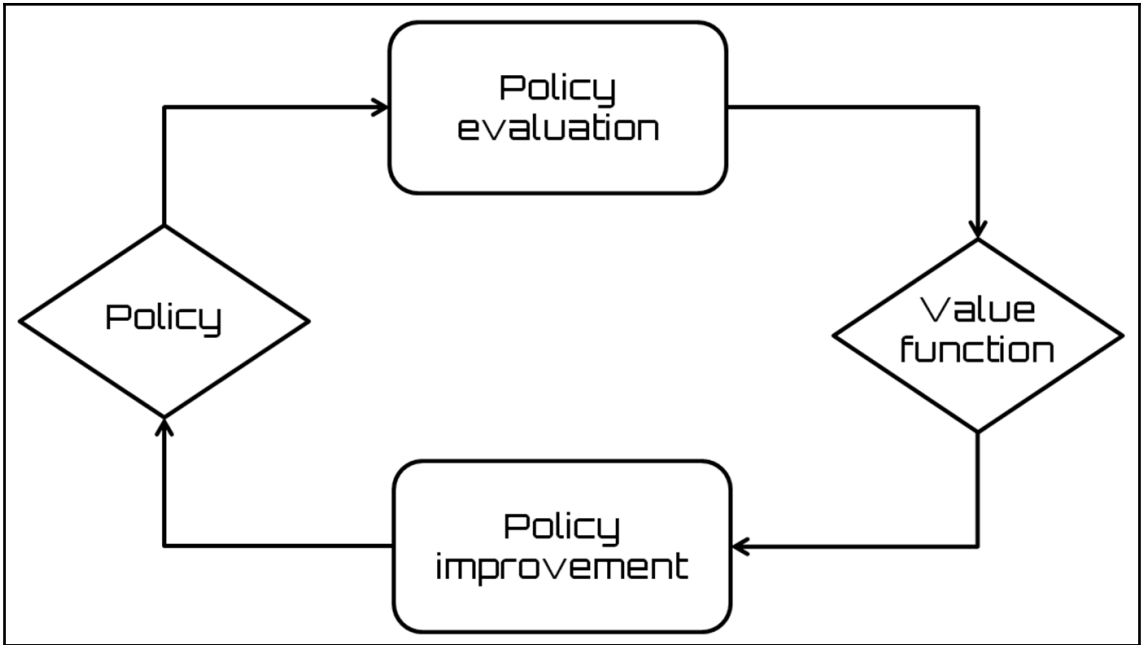


Chapter 1: Overview of Keras Reinforcement Learning

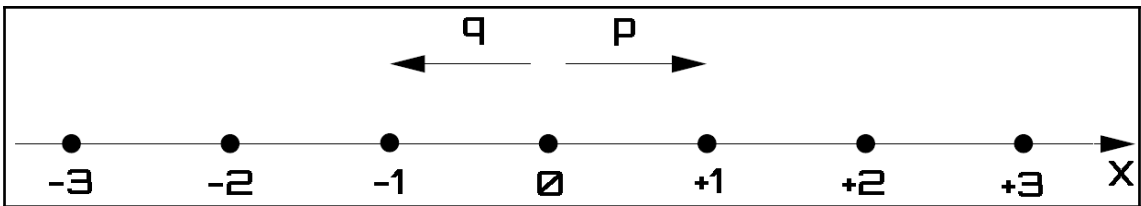
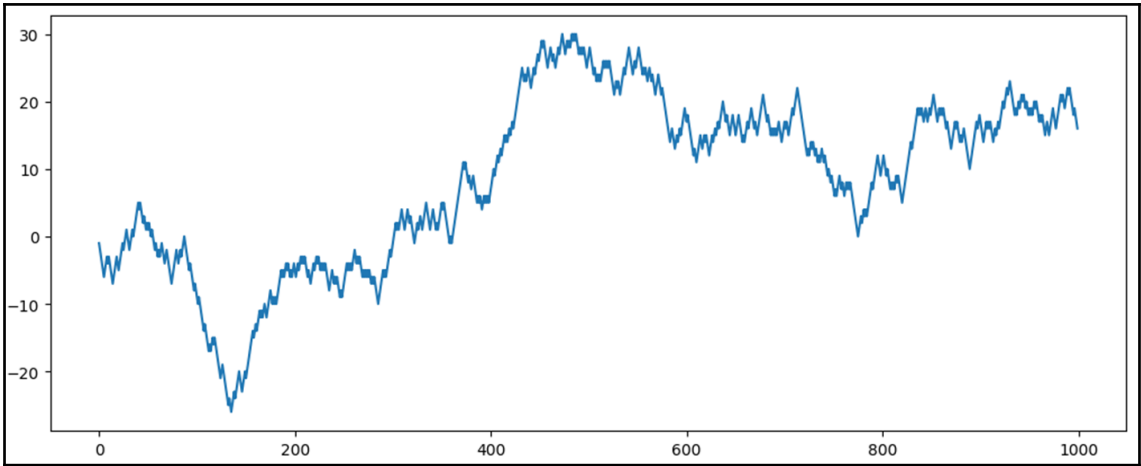
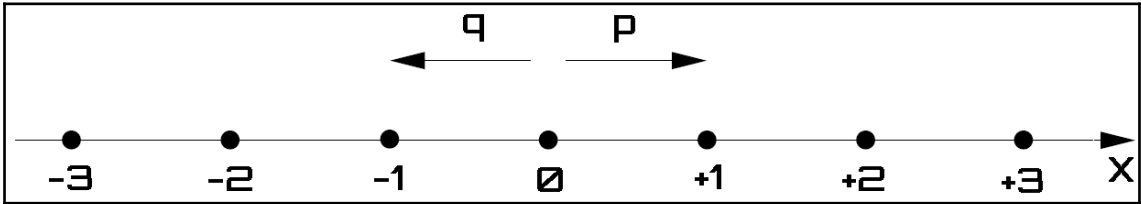


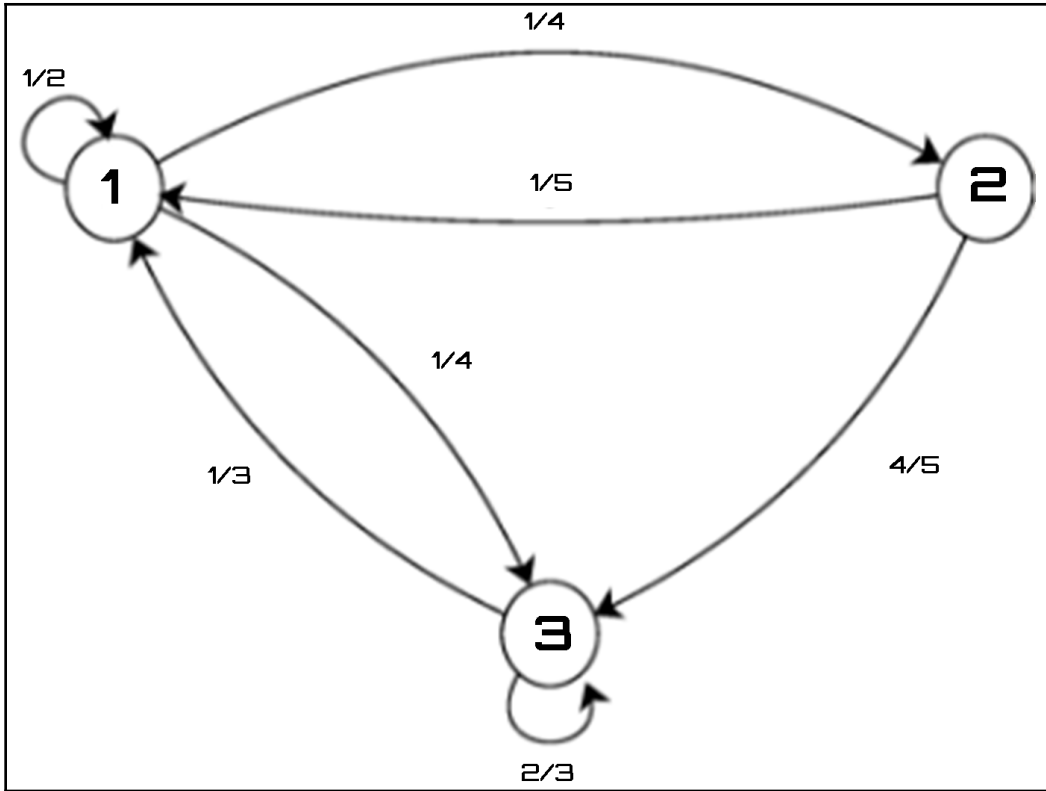


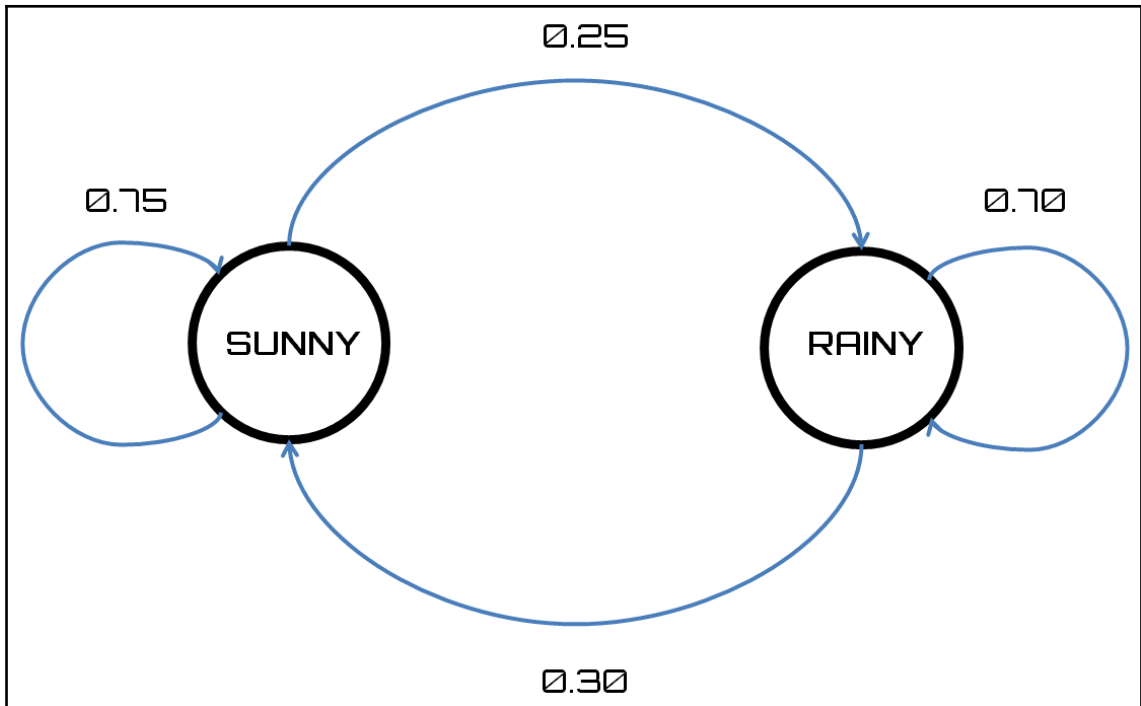




Chapter 2: Simulating Random Walks





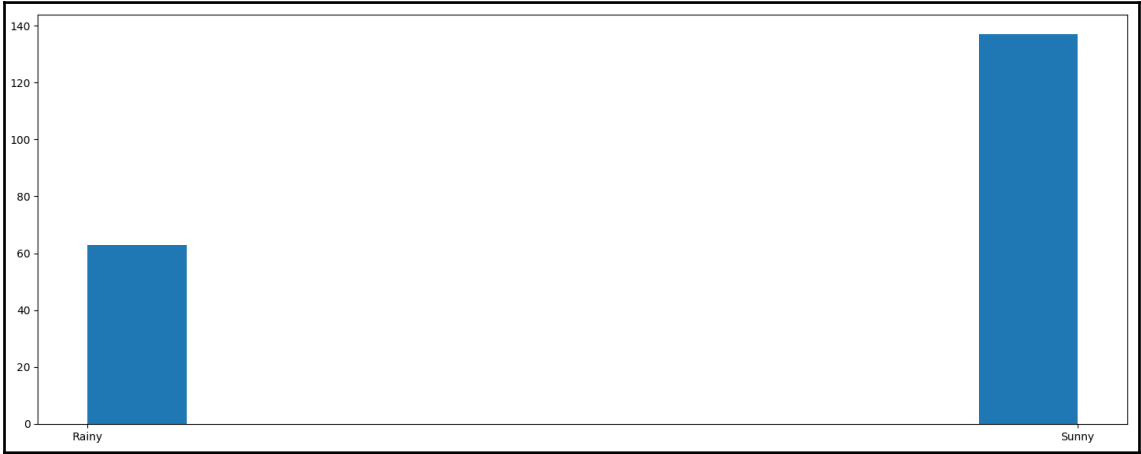
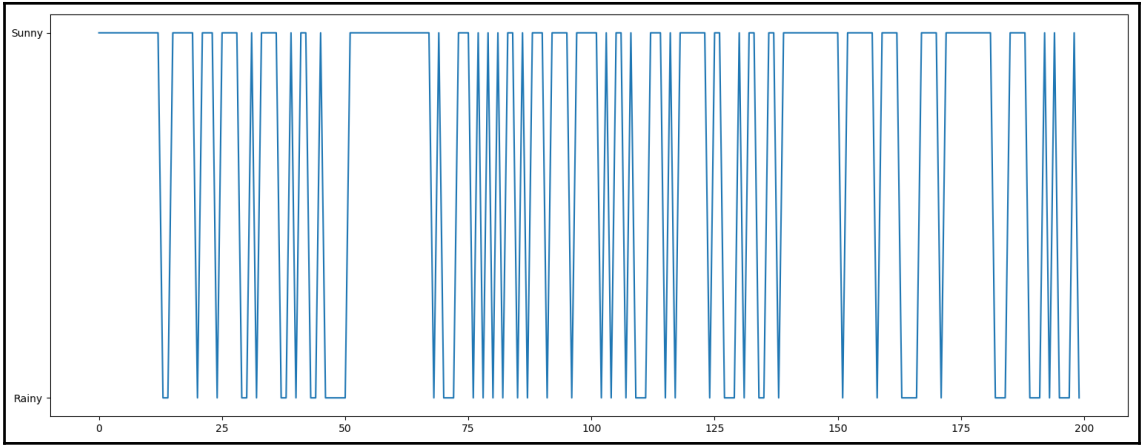


```

while i < NumberDays:
    if WeatherToday == "Sunny":
        TransWeather = np.random.choice(TransStates[0], replace=True, p=TransnMatrix[0])
        if TransWeather == "SuSu":
            pass
        else:
            WeatherToday = "Rainy"

    elif WeatherToday == "Rainy":
        TransWeather = np.random.choice(TransStates[1], replace=True, p=TransnMatrix[1])
        if TransWeather == "RaRa":
            pass
        else:
            WeatherToday = "Sunny"

    print(WeatherToday)
    WT.append(WeatherToday)
    i += 1
    time.sleep(0.2)
  
```

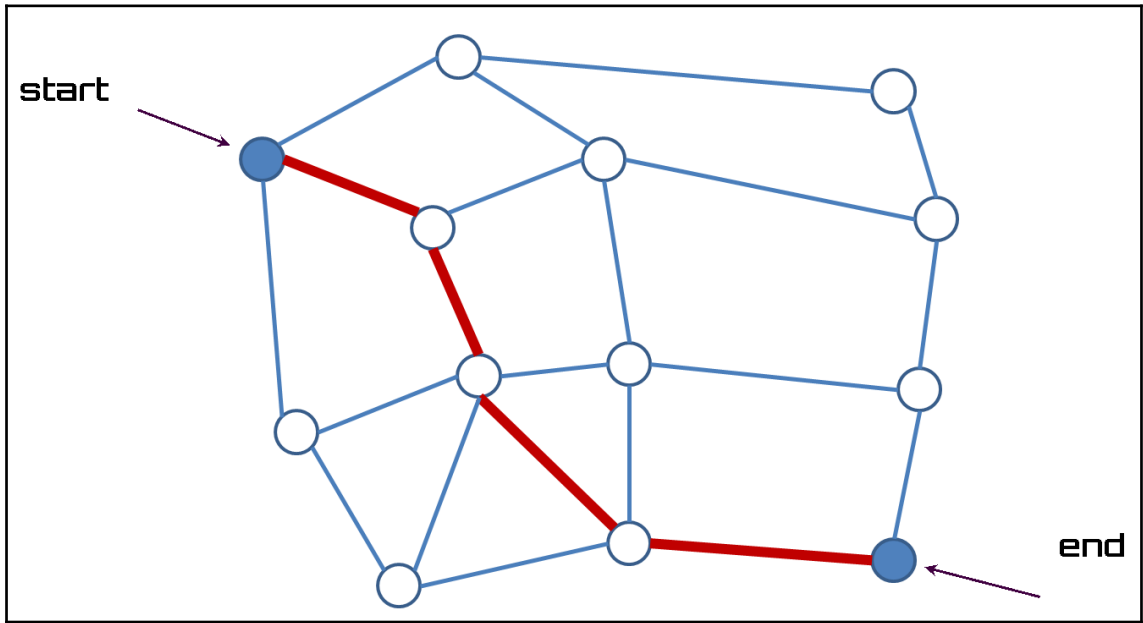


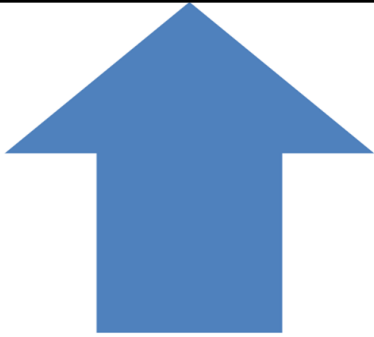
```
Prompt dei comandi
C:\script\Python\RandomWalk>python MCTextGenGiuseppe.py
Five randomly-generated sentences
-----
Blessed are they that shall--they that--a--they that shall mourn, for they--they--" "_Theirs_--" "For _theirs_.
Oh, all right, then.
Not a leaf stirred; not a tombstone on the steps and then broke into a settled melancholy, and her lip trembled.

There was a valued novelty in whistling, which he put the two bereaved women flung themselves into each other and
d be brothers and never regret having driven her poor boy out into the first time, neither.
"You stay here, where there's been pirates on this work or group of boys who had grown plenty strong enough, now
, to think she had discovered him; then he dipped the soap in the early morning recalling the incidents of his f
lower.
-----
three randomly-generated sentences of no more than 100 characters
-----
A portion of it, even if you're chopped all to flinders, and kill anybody and all the time.
And she put out her hand until all was over.
How many of the great rock stood in.

C:\script\Python\RandomWalk>
```

Chapter 3: Optimal Portfolio Selection





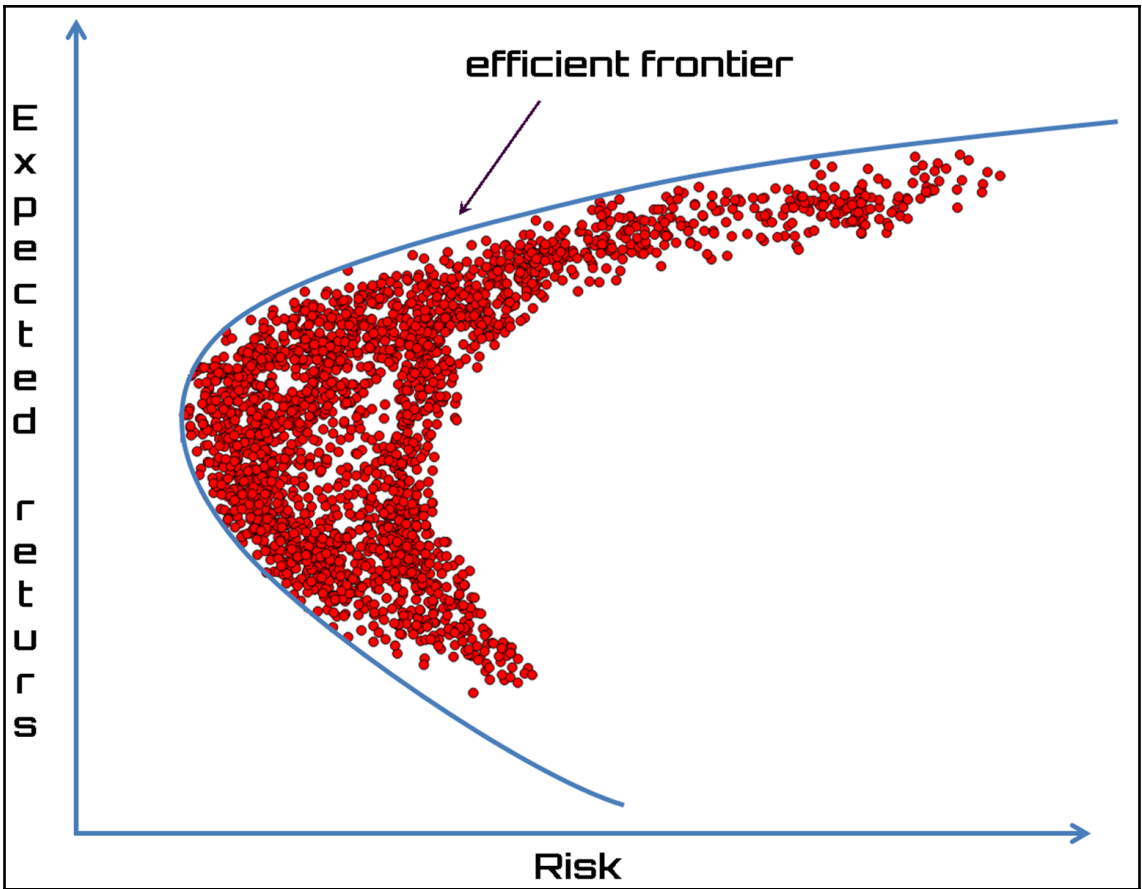
Bottom-up

Solution is built starting from a set of potentially repeated sub-problems



Top-down

A problem is subdivided into independent sub-problems, which are recursively resolved




```
Prompt dei comandi
C:\script\Python\DP>python KPBrute9GIUSEPPE2.py
Items available: [(5, 18), (2, 9), (4, 12), (6, 25)]
*****
All combination:
()
((5, 18),)
((2, 9),)
((4, 12),)
((6, 25),)
((5, 18), (2, 9))
((5, 18), (4, 12))
((5, 18), (6, 25))
((2, 9), (4, 12))
((2, 9), (6, 25))
((4, 12), (6, 25))
((5, 18), (2, 9), (4, 12))
((5, 18), (2, 9), (6, 25))
((5, 18), (4, 12), (6, 25))
((2, 9), (4, 12), (6, 25))
((5, 18), (2, 9), (4, 12), (6, 25))
*****
Subset selected: ((4, 12), (6, 25))
Total value: 37
Total weight: 10

C:\script\Python\DP>
```

```
Amministratore: Prompt dei comandi
C:\script\Python\DP>python KPGreedy1.py
Items available: [(5, 18), (2, 9), (4, 12), (6, 25)]
*****
Items filtered and sorted: [(2, 9), (4, 12), (5, 18), (6, 25)]
*****
Subset selected: [(2, 9), (4, 12)]
Total value: 21
Total weight: 6

C:\script\Python\DP>
```

```

ca Amministratore: Prompt dei comandi
C:\script\Python\DP>python KPGreedy2.py
Items available: [(5, 18), (2, 9), (4, 12), (6, 25)]
*****
Items filtered and sorted: [(2, 9), (6, 25), (5, 18), (4, 12)]
*****
Subset selected: [(2, 9), (6, 25)]
Total value: 34
Total weight: 8

C:\script\Python\DP>

```

$i \setminus w$	$w=0$	1	2	3	10
$i=0$	0	0	0	0	0
1	0	→					→
2	0	→					→
3	0	→					→
4	0	→					→

Amministratore: Prompt dei comandi

```
C:\script\Python\DP>python KPDinGiuseppe.py
```

```
Items available: [(5, 18), (2, 9), (4, 12), (6, 25)]
```

```
*****
```

```
Total value: 37
```

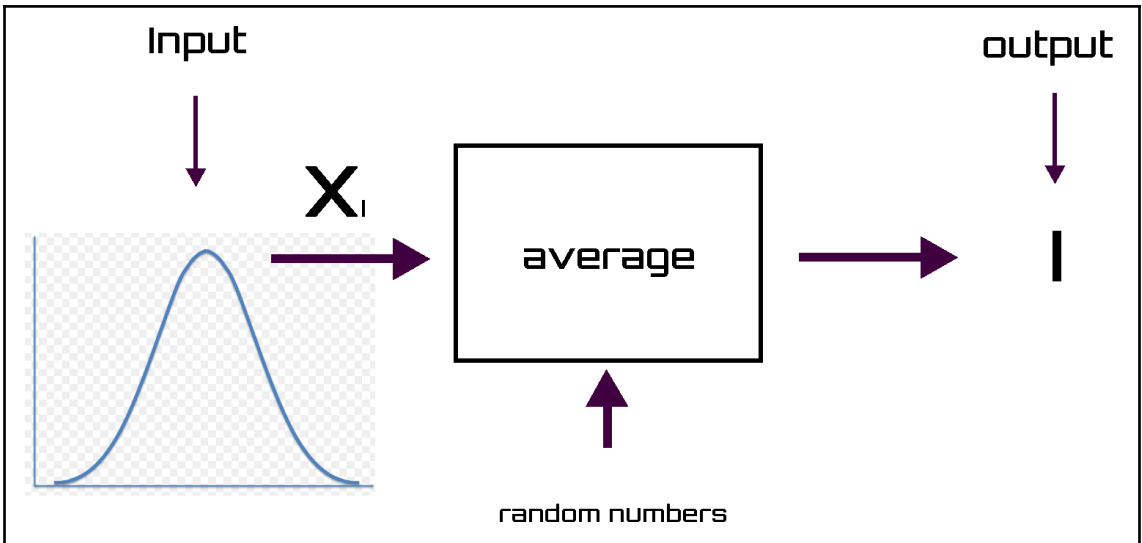
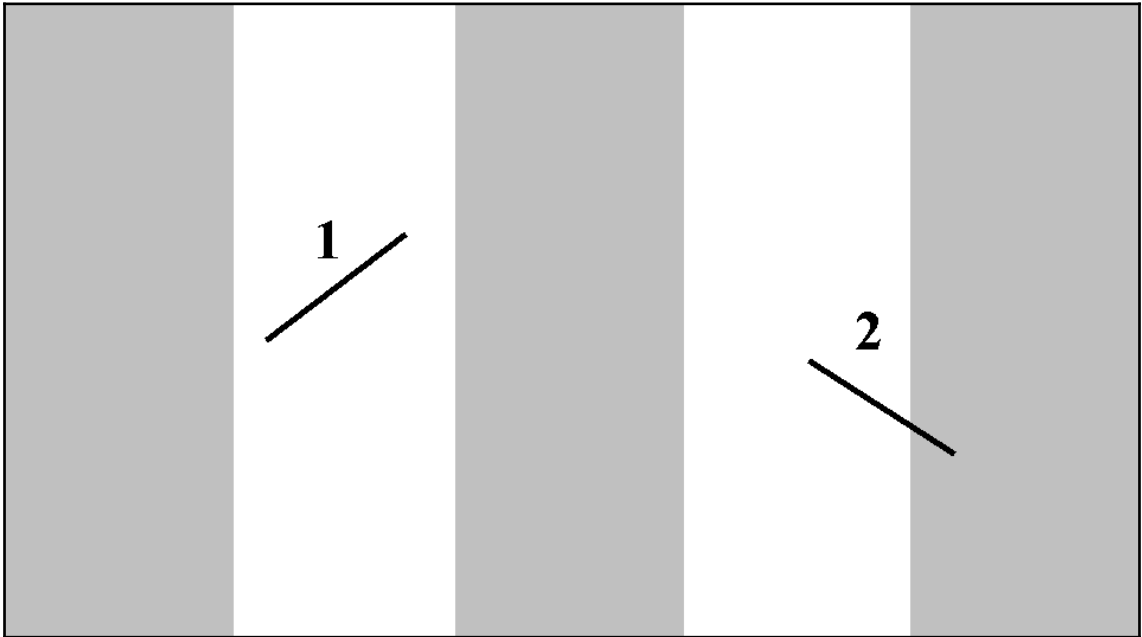
```
Item selected: 6 25
```

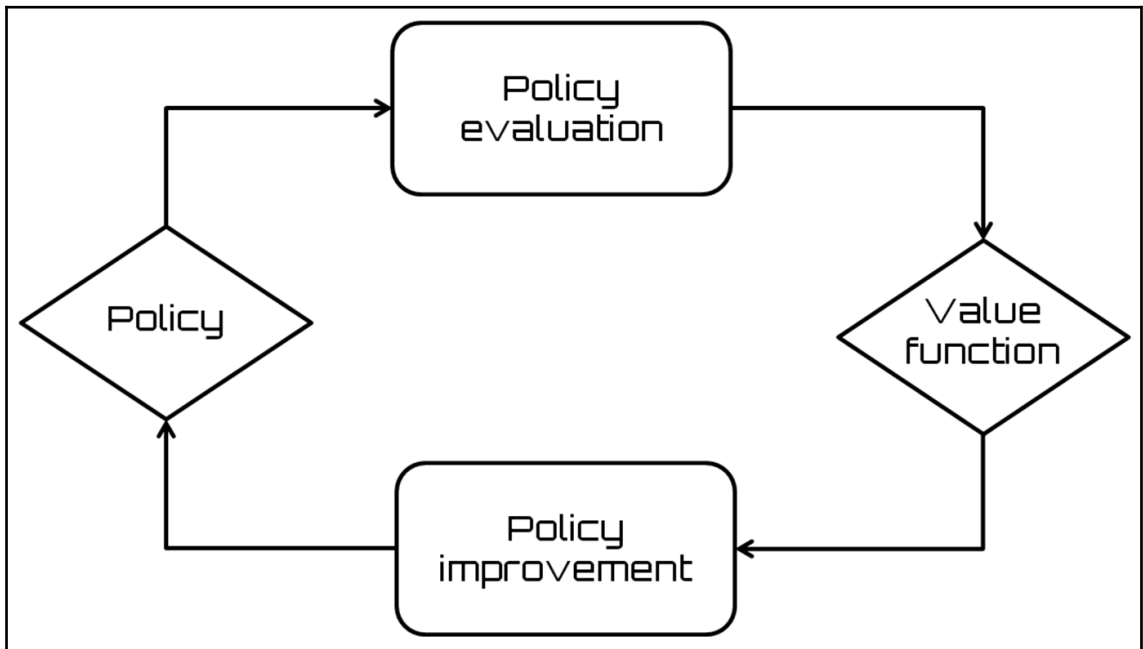
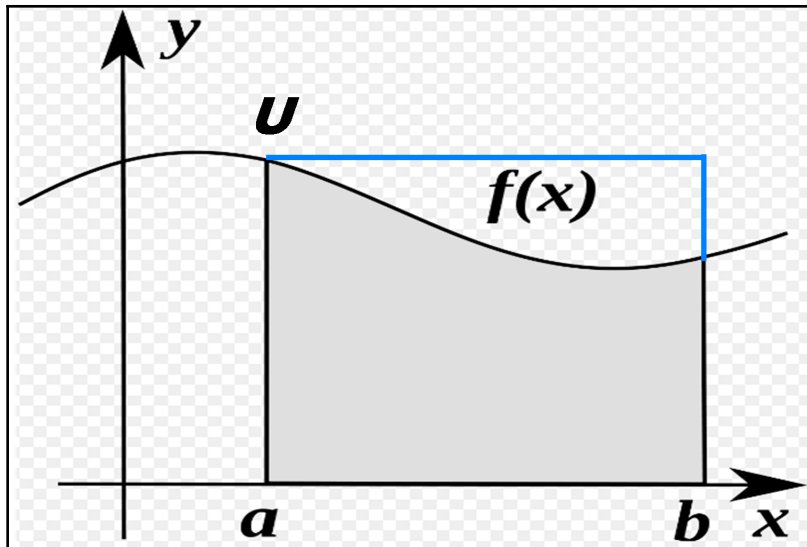
```
Item selected: 4 12
```

```
Total weight: 10
```

```
C:\script\Python\DP>
```

Chapter 4: Forecasting Stock Market Prices







S&P 500
2,772.35
+23.55 (+0.86%)



Dow 30
25,146.39
+346.41 (+1.40%)



Nasdaq
7,689.24
+51.38 (+0.67%)



Russell 2000
1,675.95
+11.32 (+0.68%)



Crude Oil
65.02
+0.29 (+0.45%)



US Markets open in 5 hrs and 51 mins



Amazon.com, Inc. (AMZN)

NasdaqGS - NasdaqGS Real Time Price. Currency in USD

☆ Add to watchlist

Quote Lookup



1,695.75 -0.60 (-0.04%)

At close: June 6 4:00PM EDT

Buy

Sell

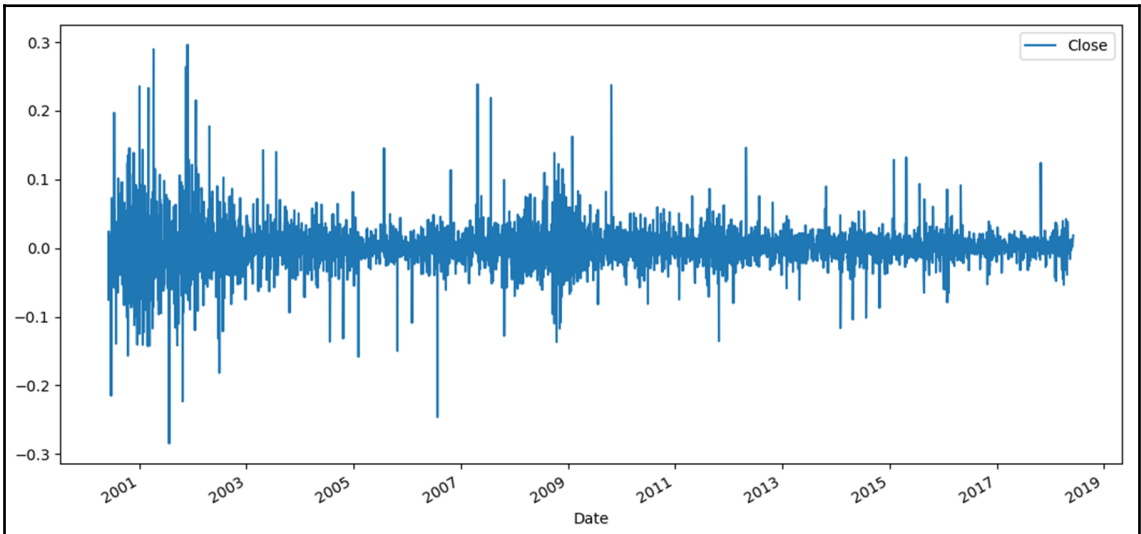
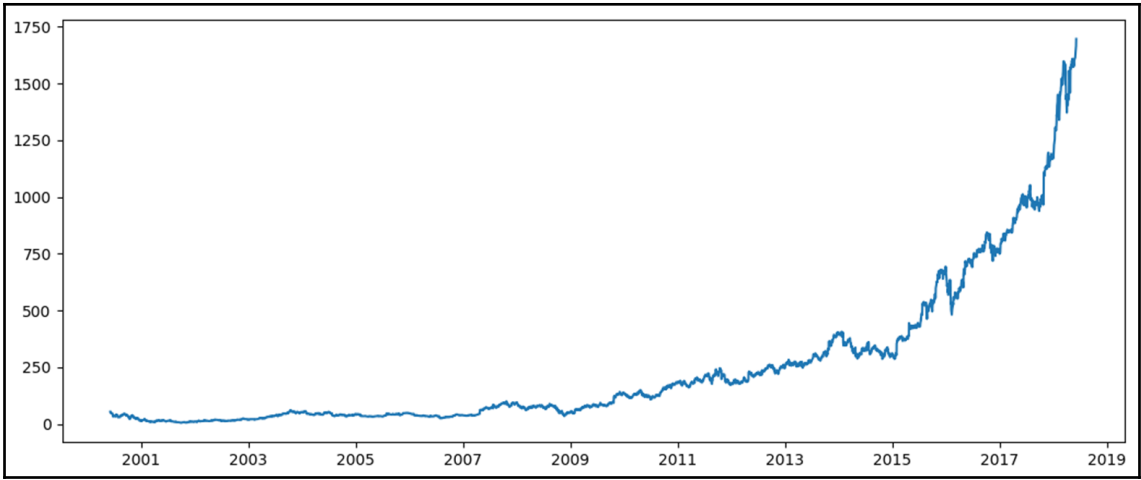
[Summary](#)
[Chart](#)
[Conversations](#)
[Statistics](#)
[Profile](#)
[Financials](#)
[Options](#)
[Holders](#)
[Historical Data](#)
[Analysis](#)
[Sustainability](#)

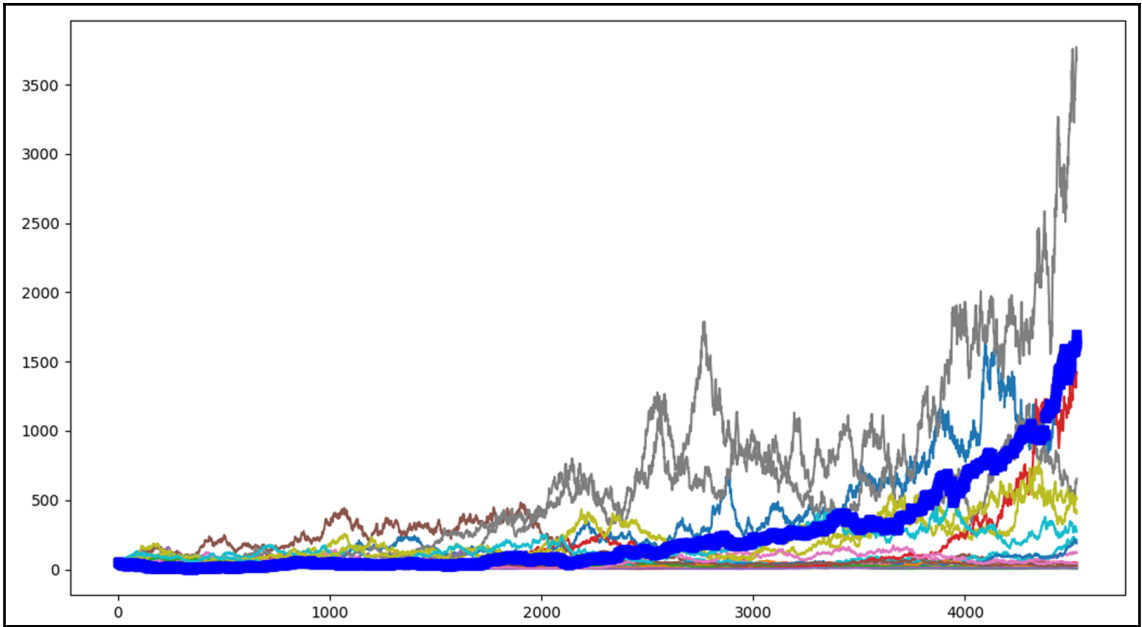
Time Period: Jun 07, 2017 - Jun 07, 2018 Show: Historical Prices Frequency: Daily Apply

Currency in USD

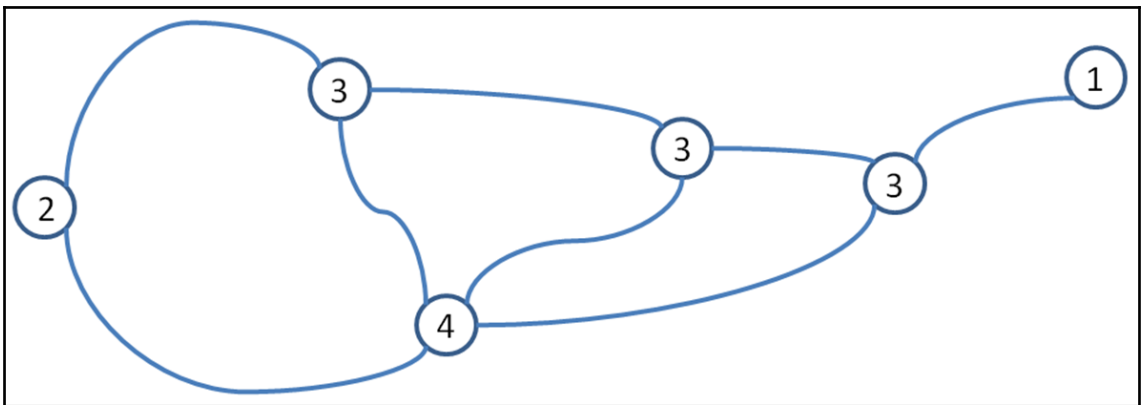
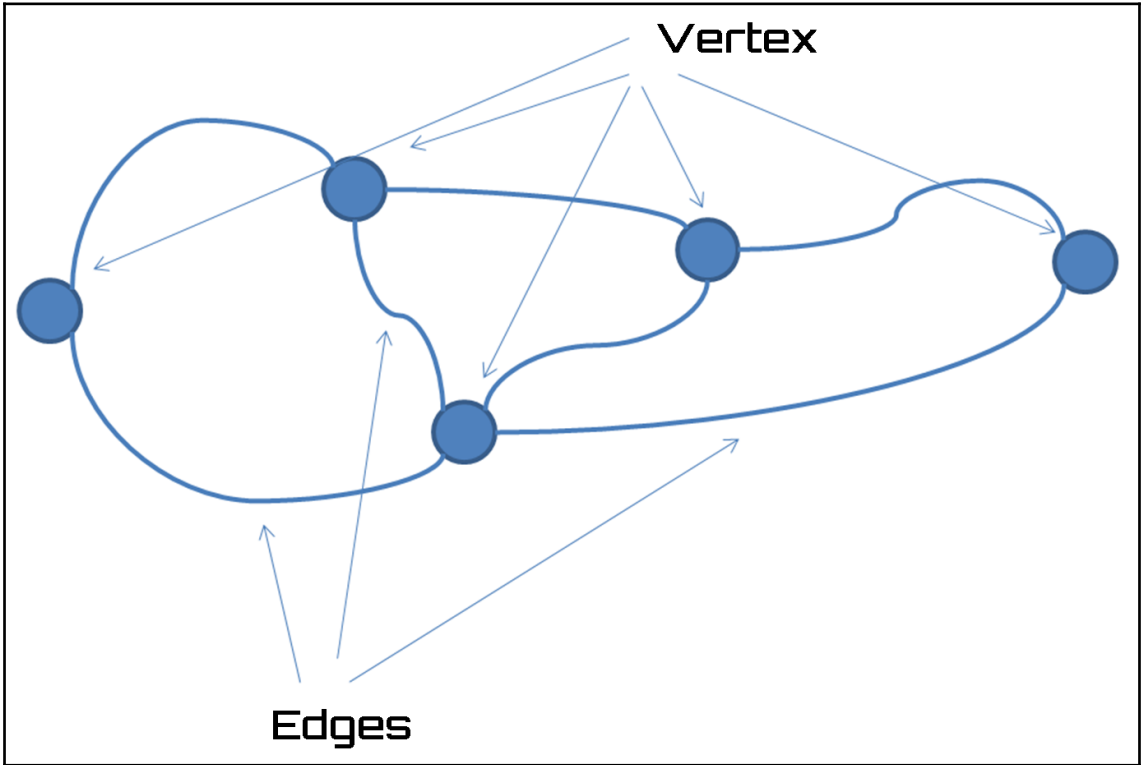
Download Data

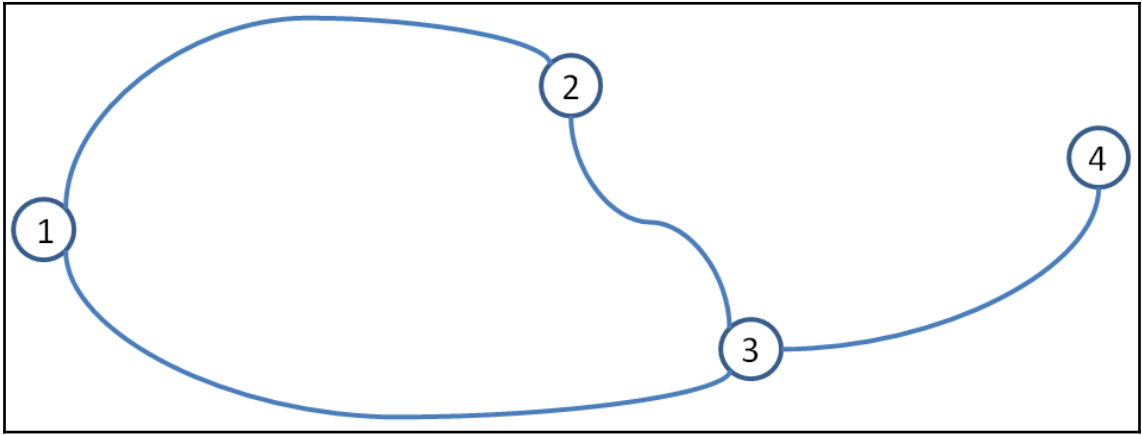
Date	Open	High	Low	Close*	Adj Close**	Volume
Jun 06, 2018	1,704.51	1,714.50	1,686.47	1,695.75	1,695.75	5,458,500
Jun 05, 2018	1,672.99	1,699.00	1,670.06	1,696.35	1,696.35	4,782,200
Jun 04, 2018	1,648.90	1,665.68	1,645.49	1,665.27	1,665.27	3,167,900
Jun 01, 2018	1,637.03	1,646.73	1,635.09	1,641.54	1,641.54	3,290,100
May 31, 2018	1,623.00	1,635.00	1,621.35	1,629.62	1,629.62	3,166,300
May 30, 2018	1,618.10	1,626.00	1,612.93	1,624.89	1,624.89	2,907,400
May 29, 2018	1,600.71	1,621.79	1,600.15	1,612.87	1,612.87	3,829,900
May 25, 2018	1,603.00	1,614.12	1,600.45	1,610.15	1,610.15	2,698,400
May 24, 2018	1,598.03	1,608.24	1,588.38	1,603.07	1,603.07	3,375,800
May 23, 2018	1,571.05	1,601.86	1,566.34	1,601.86	1,601.86	3,299,800
May 22, 2018	1,589.89	1,589.89	1,575.25	1,581.40	1,581.40	2,115,600
May 21, 2018	1,585.00	1,592.05	1,575.00	1,585.46	1,585.46	2,925,200
May 18, 2018	1,581.33	1,583.59	1,572.10	1,574.37	1,574.37	2,642,600
May 17, 2018	1,580.56	1,594.04	1,573.00	1,581.76	1,581.76	2,147,600
May 16, 2018	1,577.50	1,594.43	1,576.67	1,587.28	1,587.28	2,570,600



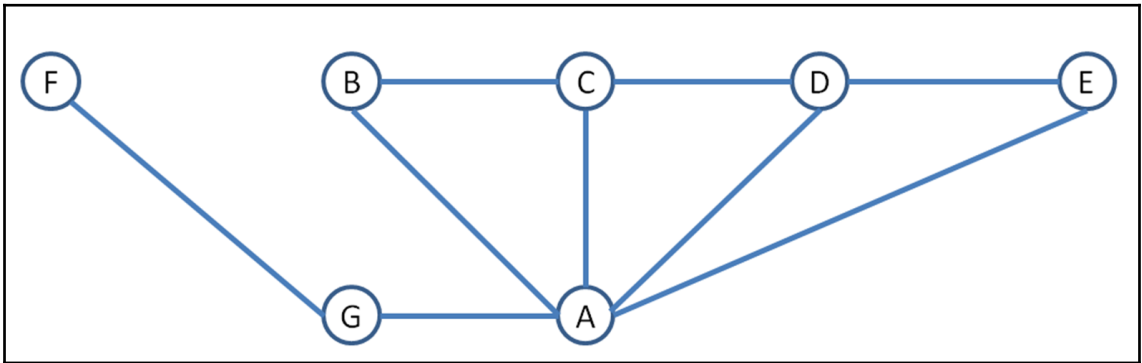


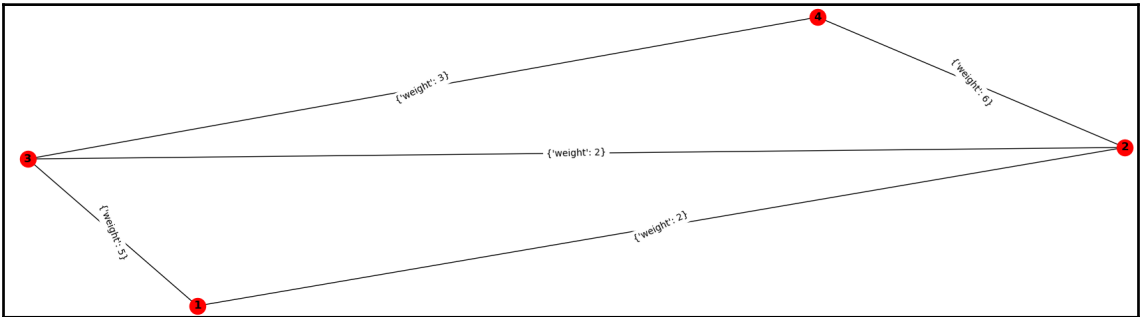
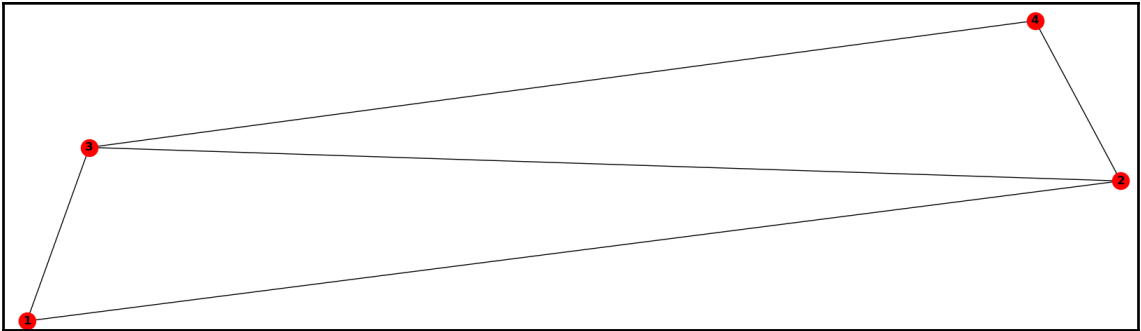
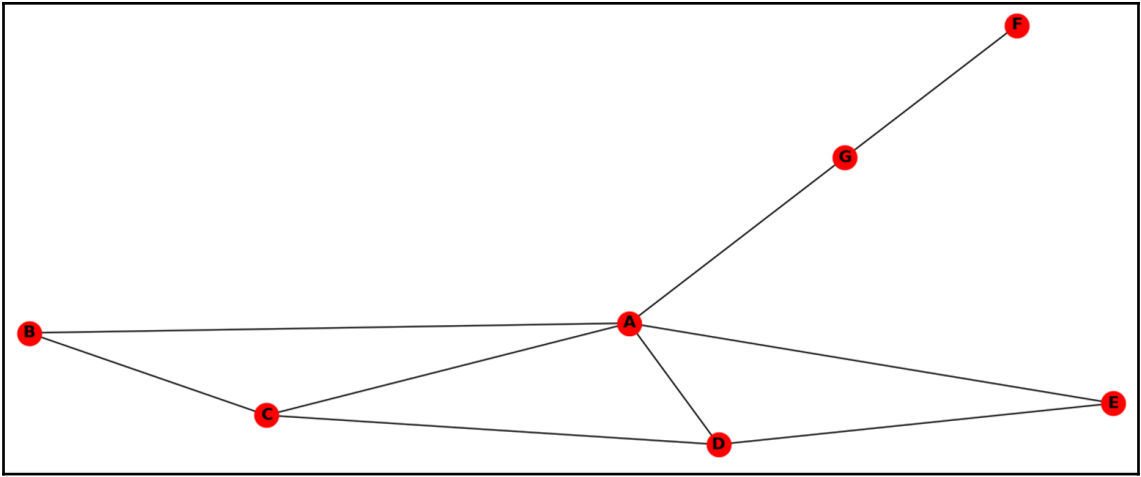
Chapter 5: Delivery Vehicle Routing Application

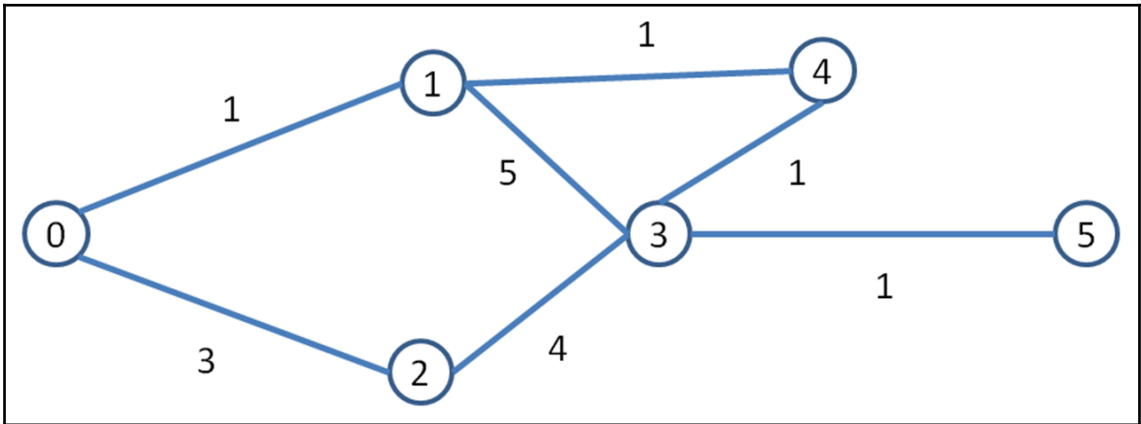
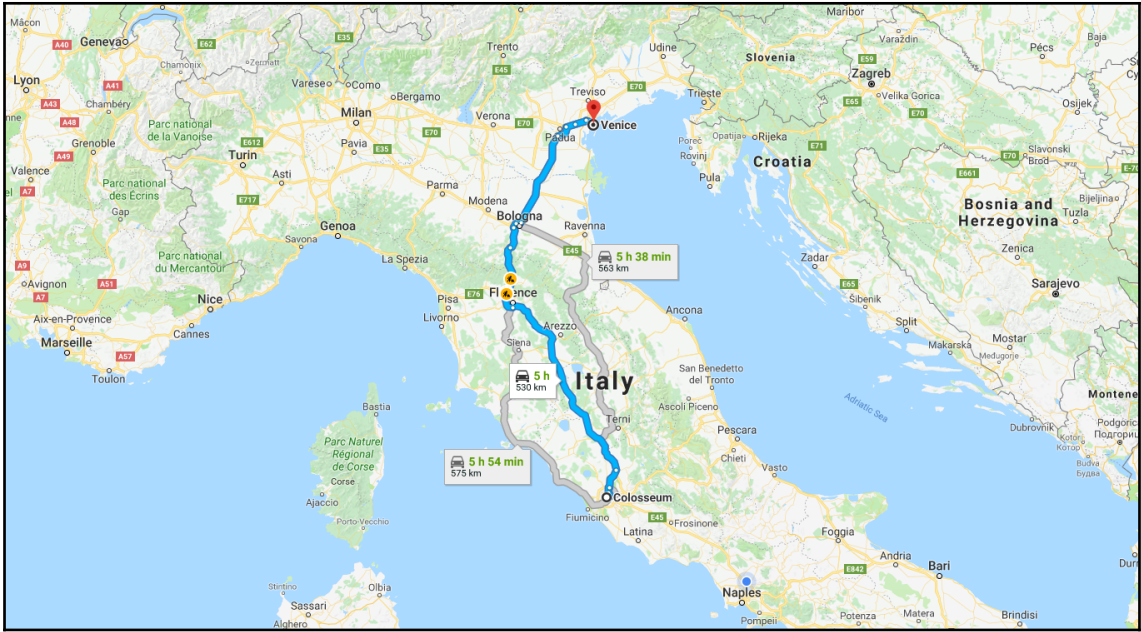


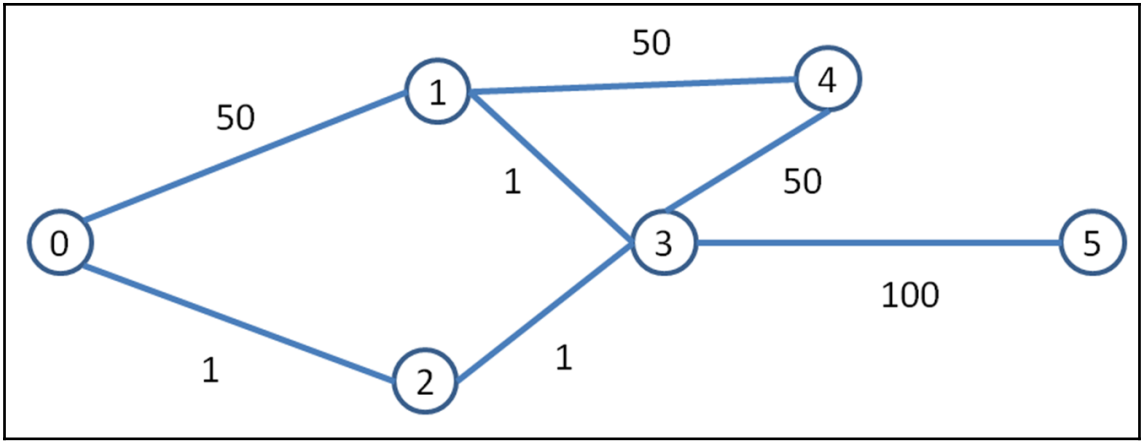


0	1	1	0
1	0	1	0
1	1	0	1

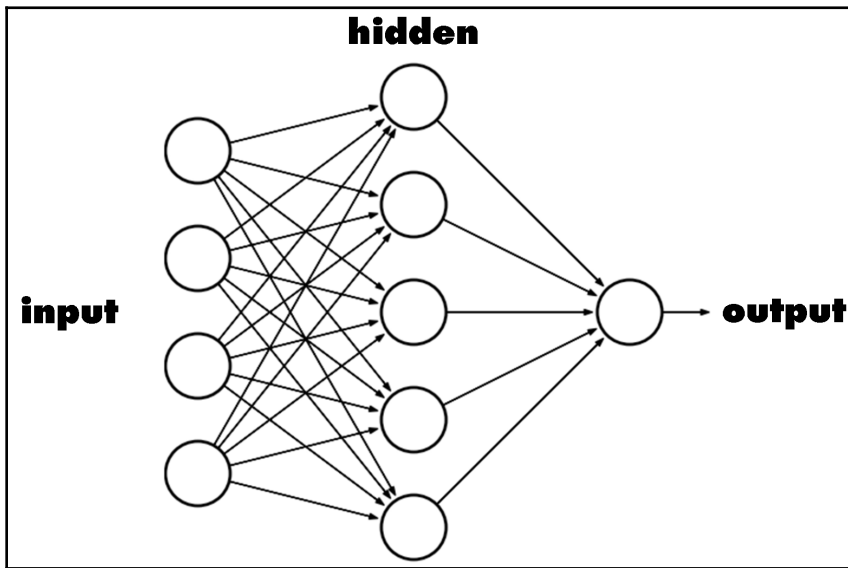
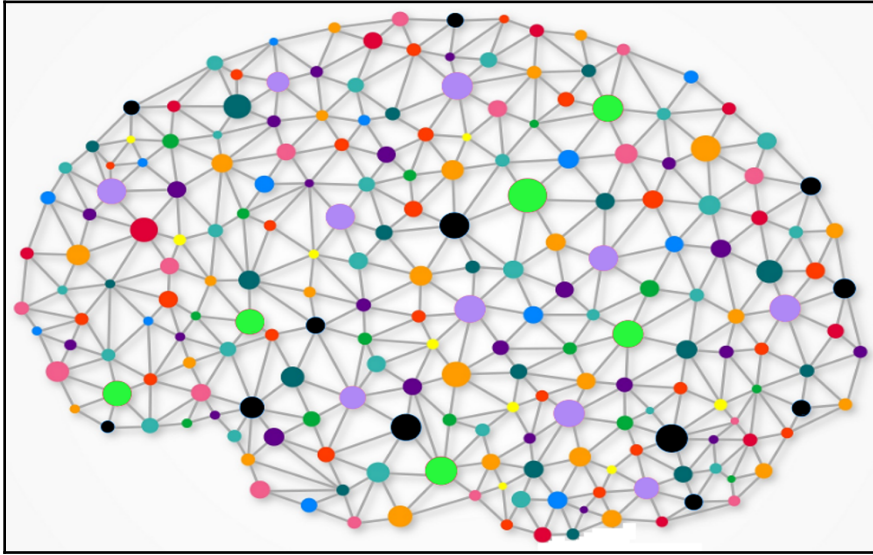


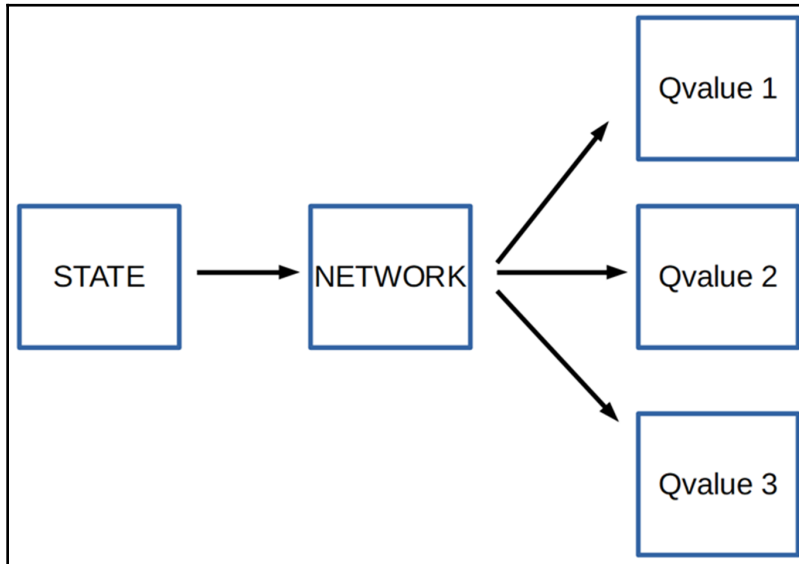
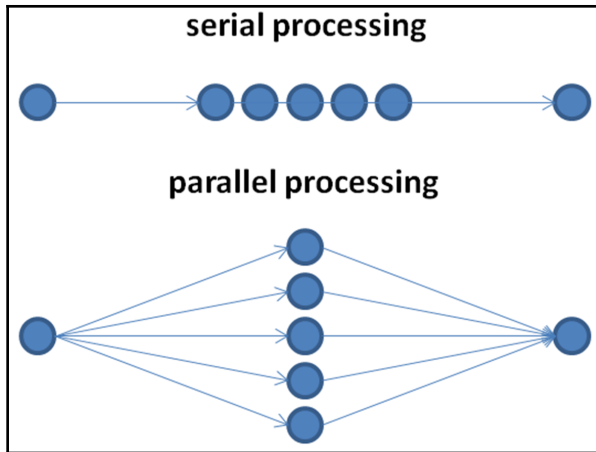


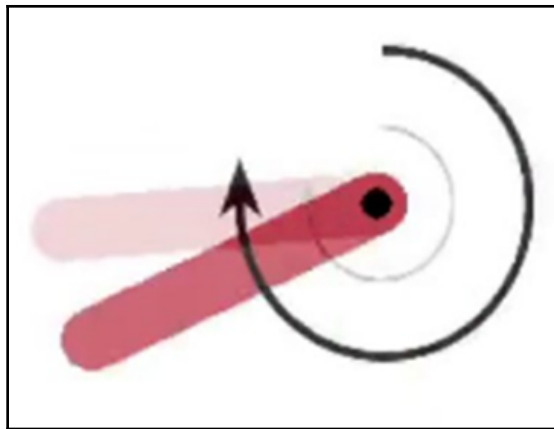




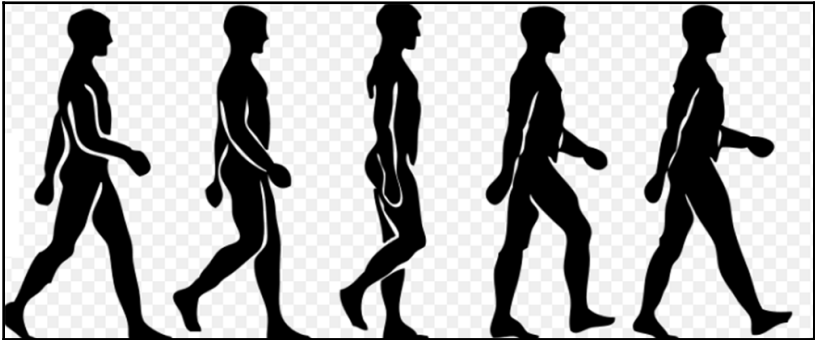
Chapter 6: Continuous Balancing of a Rotating Mechanical System

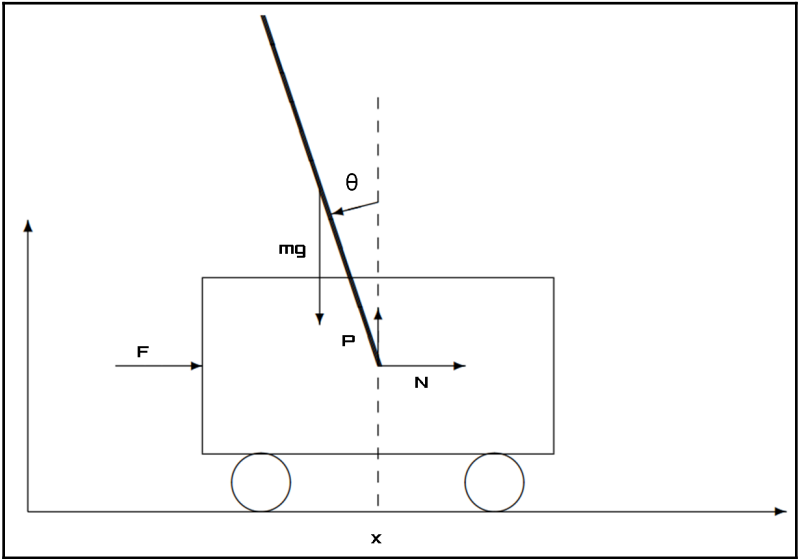
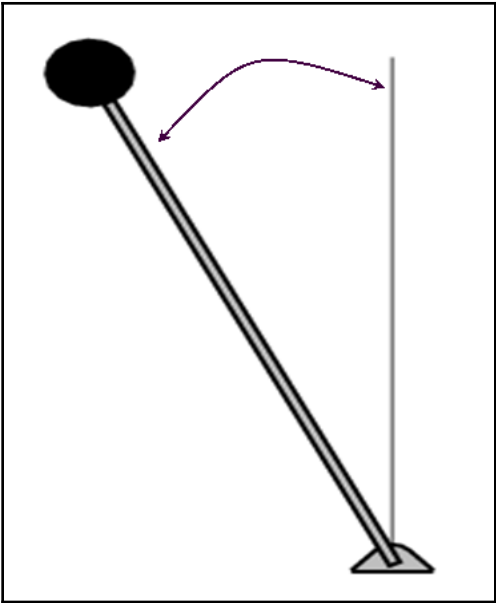






Chapter 7: Dynamic Modeling of a Segway as an Inverted Pendulum System





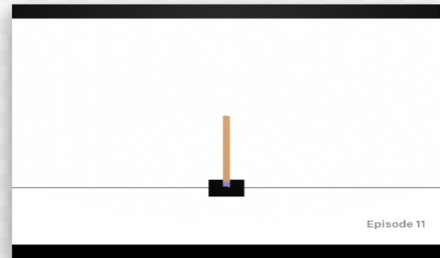


Gym

Gym is a toolkit for developing and comparing reinforcement learning algorithms. It supports teaching agents everything from walking to playing games like Pong or Pinball.

[View documentation >](#)

[View on GitHub >](#)

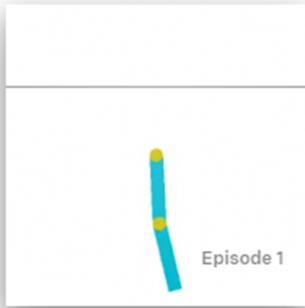


RandomAgent on CartPole-v1



Open source interface to reinforcement learning tasks.

The [gym](#) library provides an easy-to-use suite of reinforcement learning tasks.



Acrobot-v1
Swing up a two-link robot.



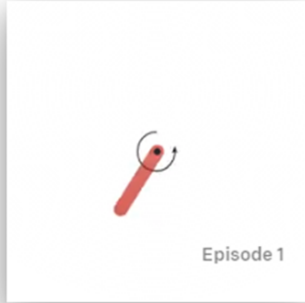
CartPole-v1
Balance a pole on a cart.



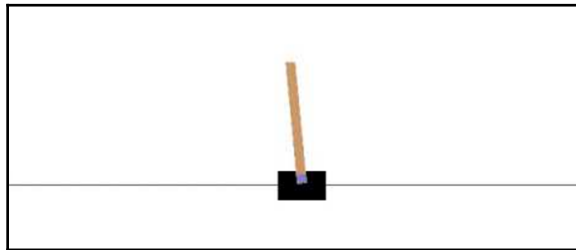
MountainCar-v0
Drive up a big hill.



MountainCarContinuous-v0
Drive up a big hill with
continuous control.

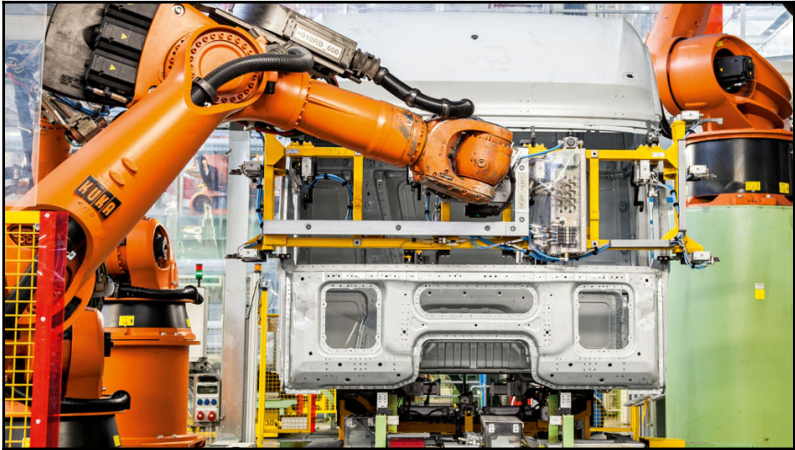


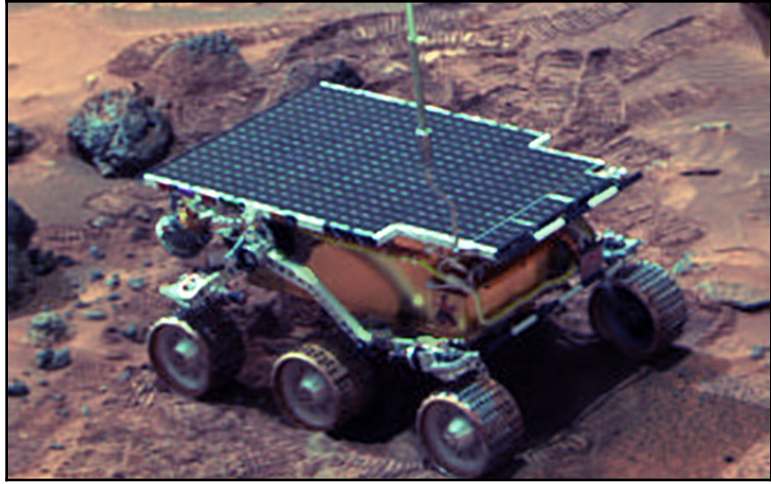
Pendulum-v0
Swing up a pendulum.



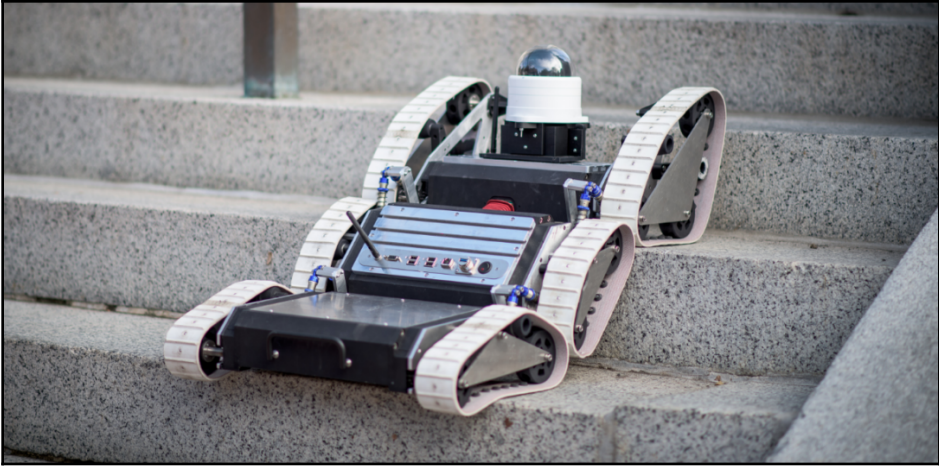
Chapter 8: Robot Control System Using Deep Reinforcement Learning











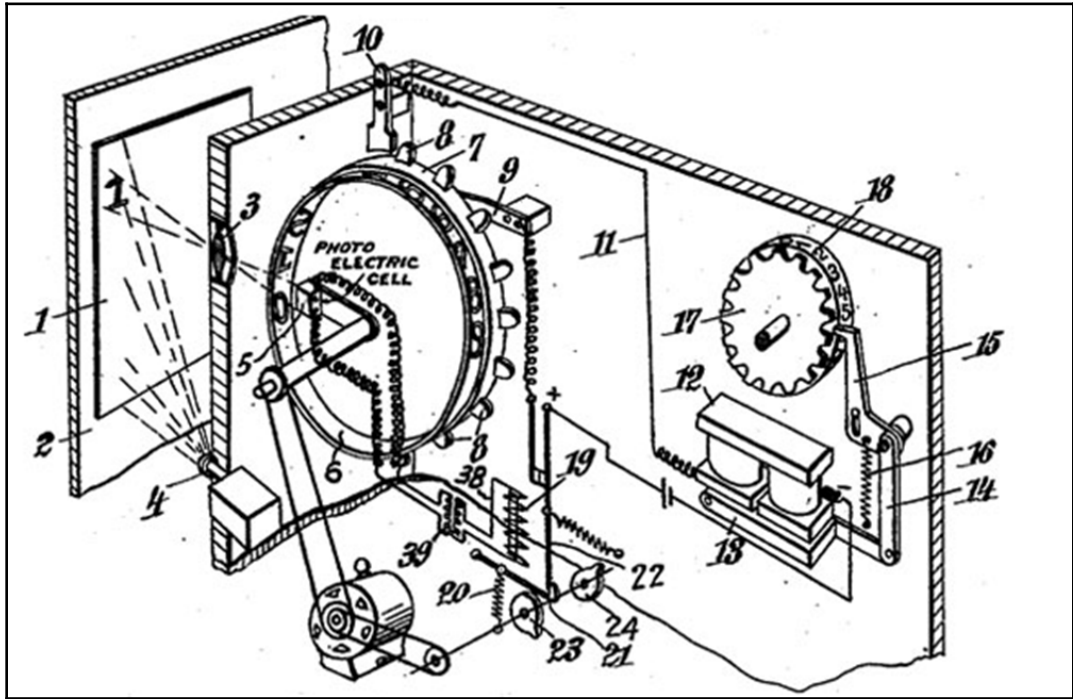
S	F	F	F
F	H	F	H
F	F	F	H
H	F	F	G

Score: 0.441

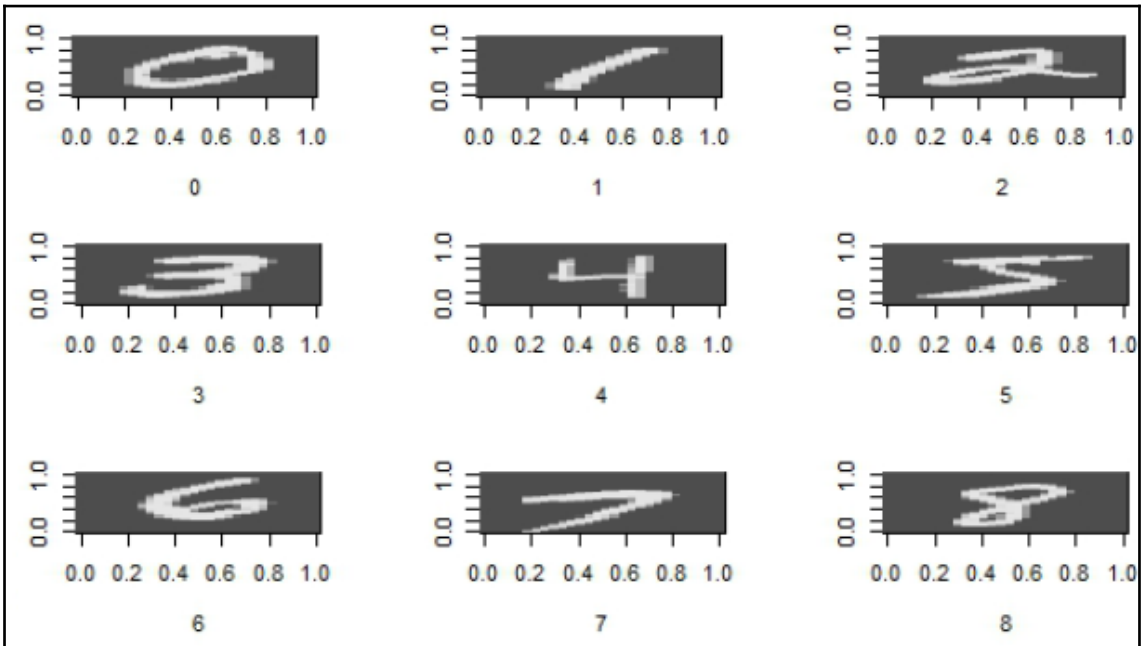
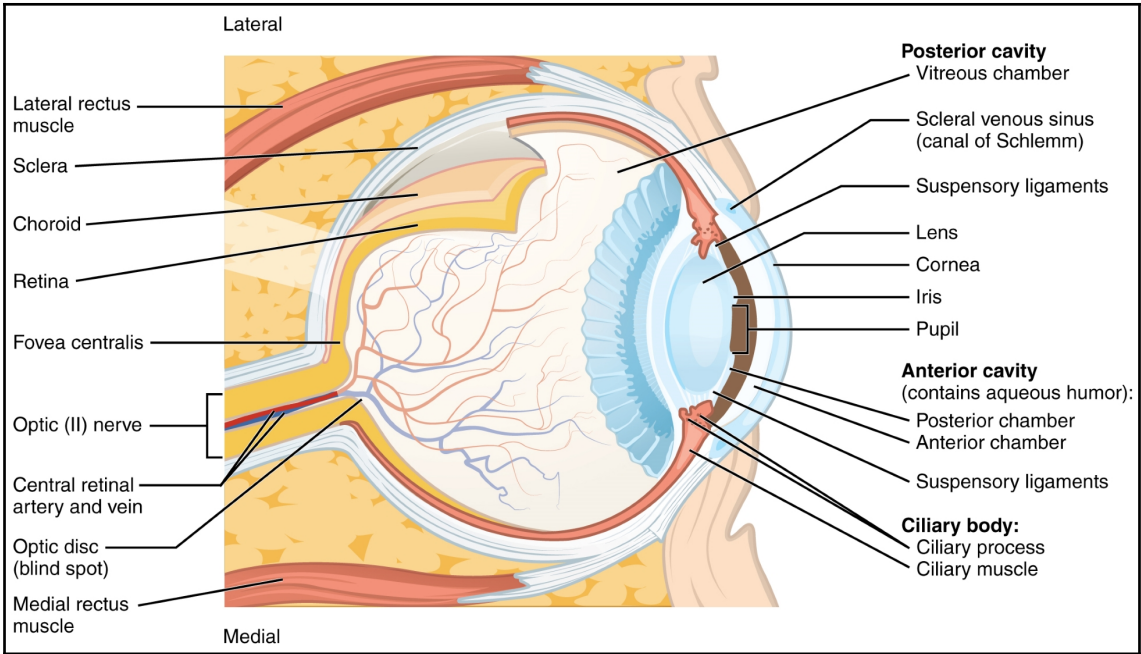
Final Q-Table Values

```
[ [8.09790682e-02 9.69476193e-03 4.11286493e-03 3.72643060e-03]
 [1.28341407e-03 6.03882961e-04 8.06474557e-04 2.68672382e-01]
 [1.91967449e-03 1.92834234e-03 1.35171928e-03 1.44758358e-01]
 [7.17684420e-04 3.66341807e-07 1.37698057e-04 8.63455110e-02]
 [8.34610385e-02 4.22336752e-06 3.86592526e-05 1.25979894e-03]
 [0.00000000e+00 0.00000000e+00 0.00000000e+00 0.00000000e+00]
 [2.97743191e-04 1.84465934e-05 1.15548361e-01 7.03460389e-06]
 [0.00000000e+00 0.00000000e+00 0.00000000e+00 0.00000000e+00]
 [3.05085281e-05 8.22833888e-04 1.18894379e-03 9.85186767e-02]
 [5.88378899e-04 3.46691598e-01 3.80809242e-04 2.51803451e-04]
 [5.10025290e-01 1.83055349e-03 9.49003480e-04 2.15726641e-05]
 [0.00000000e+00 0.00000000e+00 0.00000000e+00 0.00000000e+00]
 [0.00000000e+00 0.00000000e+00 0.00000000e+00 0.00000000e+00]
 [0.00000000e+00 1.13547942e-03 7.02402188e-01 2.29674937e-04]
 [0.00000000e+00 0.00000000e+00 9.45161063e-01 0.00000000e+00]
 [0.00000000e+00 0.00000000e+00 0.00000000e+00 0.00000000e+00] ]
```

Chapter 9: Handwritten Digit Recognizer

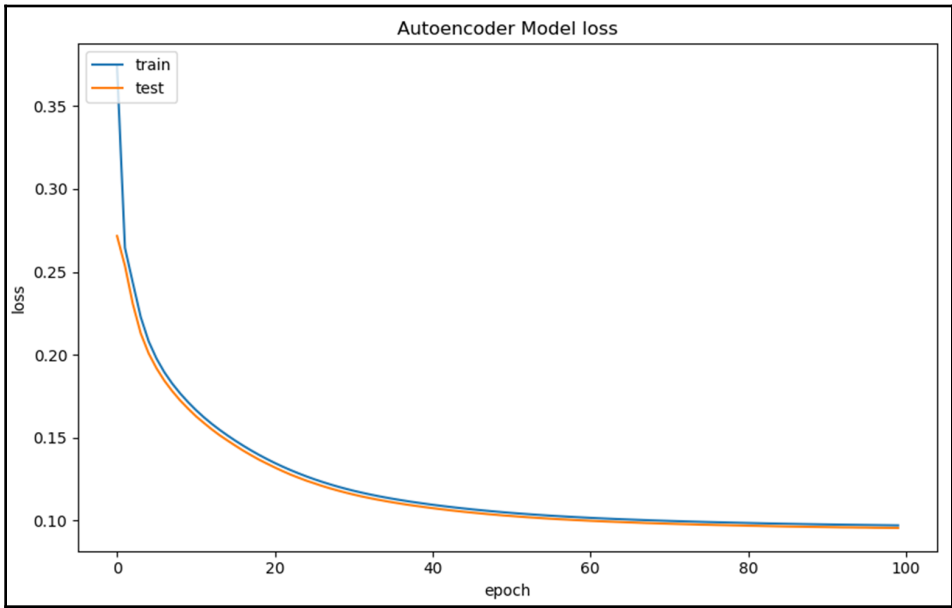


9	0	6	9
3	3	3	3
5	5	5	5



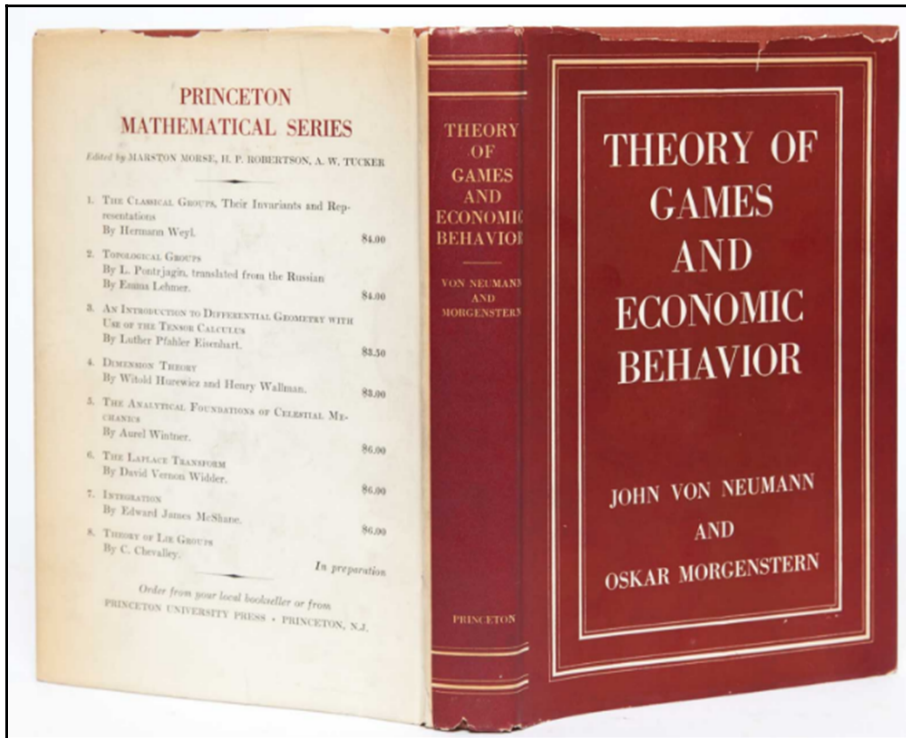
```
Prompt dei comandi
Epoch 88/100
60000/60000 [=====] - 6s 100us/step - loss: 0.0979 - val_loss: 0.0963
Epoch 89/100
60000/60000 [=====] - 6s 98us/step - loss: 0.0979 - val_loss: 0.0962
Epoch 90/100
60000/60000 [=====] - 6s 101us/step - loss: 0.0978 - val_loss: 0.0962
Epoch 91/100
60000/60000 [=====] - 6s 102us/step - loss: 0.0977 - val_loss: 0.0961
Epoch 92/100
60000/60000 [=====] - 6s 103us/step - loss: 0.0976 - val_loss: 0.0960
Epoch 93/100
60000/60000 [=====] - 6s 108us/step - loss: 0.0976 - val_loss: 0.0960
Epoch 94/100
60000/60000 [=====] - 7s 118us/step - loss: 0.0975 - val_loss: 0.0959
Epoch 95/100
60000/60000 [=====] - 6s 106us/step - loss: 0.0974 - val_loss: 0.0959
Epoch 96/100
60000/60000 [=====] - 7s 113us/step - loss: 0.0974 - val_loss: 0.0958
Epoch 97/100
60000/60000 [=====] - 7s 121us/step - loss: 0.0973 - val_loss: 0.0957
Epoch 98/100
60000/60000 [=====] - 8s 141us/step - loss: 0.0973 - val_loss: 0.0957
Epoch 99/100
60000/60000 [=====] - 8s 125us/step - loss: 0.0972 - val_loss: 0.0956
Epoch 100/100
60000/60000 [=====] - 7s 120us/step - loss: 0.0971 - val_loss: 0.0956

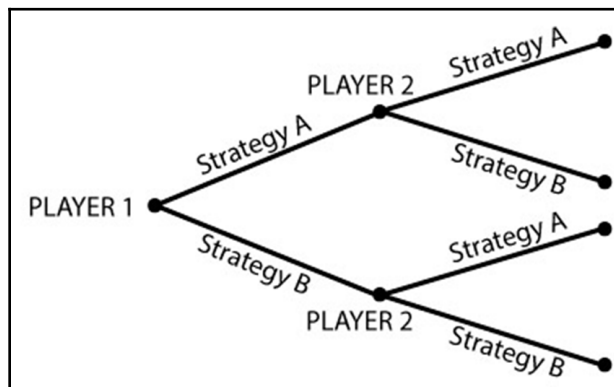
C:\pythonscript\GEN>
```

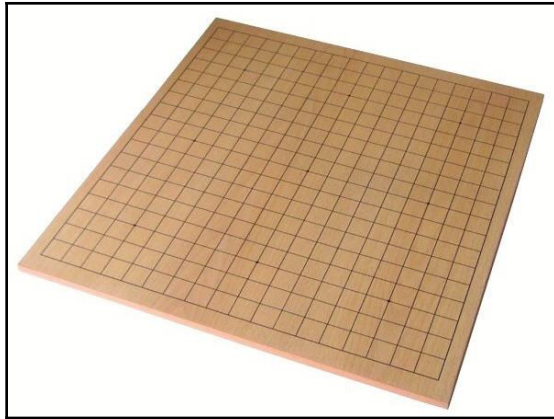


7	2	1	0	4
7	2	1	0	4


Chapter 10: Playing the Board Game Go







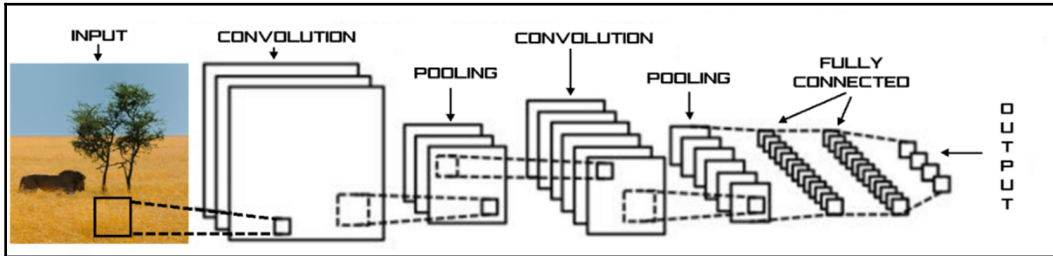
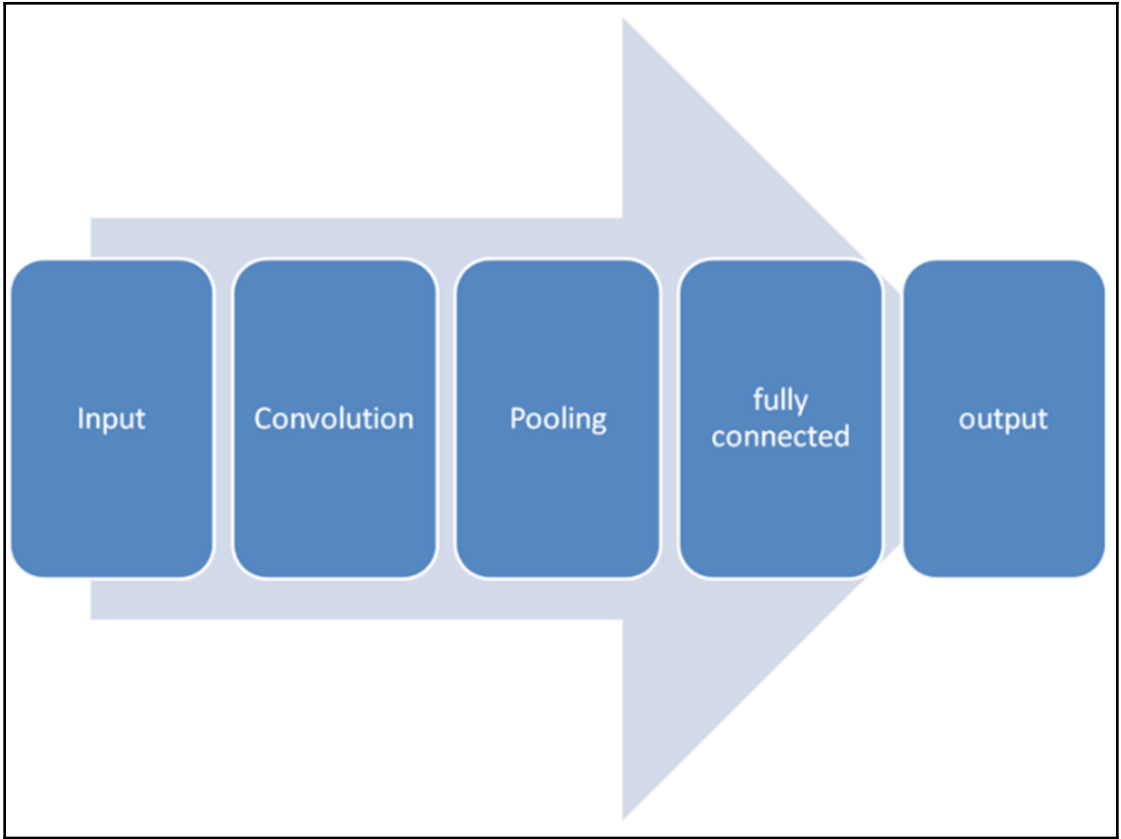
☰

 **AlphaGo**

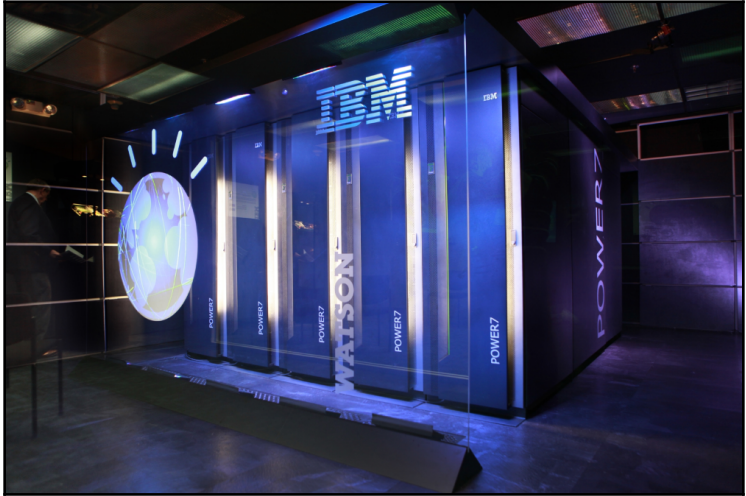
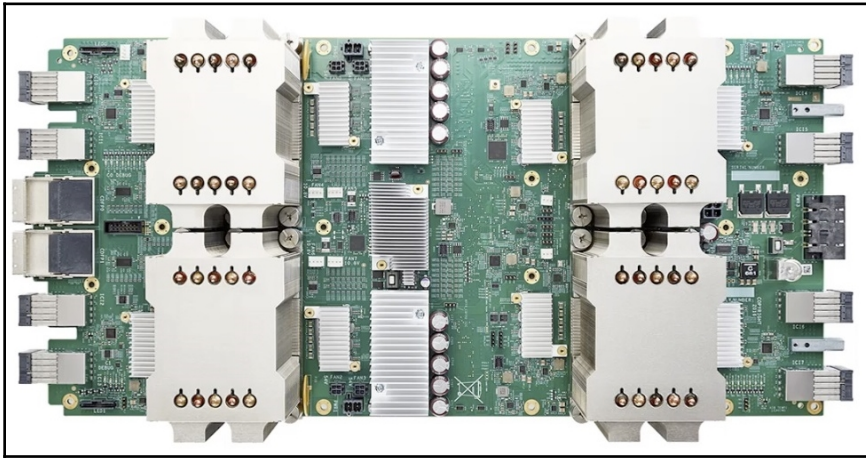
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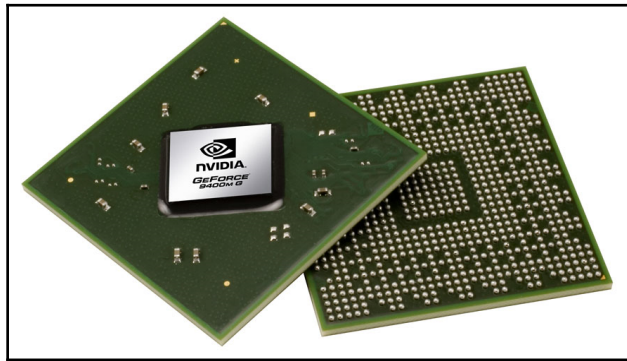
Article Title	Image Description	Date
AlphaGo Zero	Close-up of a Go board with a stone being placed.	18 October 2017
AlphaGo's next move	Go board with several stones on it.	27 May 2017
Exploring the mysteries of Go	People playing Go around a table.	10 April 2017
Innovations of AlphaGo	Go board with many stones.	10 April 2017



Chapter 11: What's Next?







1000000 - MetaQuotes-Demo: Demo Account - Hedge - EURUSD,H1

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AutoTrading New Order

Market Watch: 10:39:27

Symbol	Bid	Ask
EURUSD	1.10947	1.10955
GBPUSD	1.41636	1.41653
USDCHF	0.98757	0.98797
USDJPY	113.057	113.087
EURCAD	1.48354	1.48434
AUDJPY	84.427	84.487
USDCAD	1.33729	1.33769
EURJPY	125.442	125.472
EURCHF	1.09580	1.09610

click to add... 9 / 346

Symbols Details Trading Ticks

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- Scripts
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Common Favorites

EURUSD,H1

USDCHF,H1

GBPUSD,H1

USDJPY,H1

Symbol	Ticket	Time	Type	Volume	Price	S / L	T / P	Price	Profit
eurusd	138434393	2016.03.01 15:37:23	buy	5.00	1.08553	0.00000	0.00000	1.10947	11 970.00 x
eurusd	138434548	2016.03.01 15:38:23	buy	5.00	1.08553	0.00000	0.00000	1.10947	11 970.00 x
eurusd	138436006	2016.03.01 15:42:33	buy	5.00	1.08627	0.00000	0.00000	1.10947	11 600.00 x
eurusd	138436012	2016.03.01 15:42:34	buy	5.00	1.08627	0.00000	0.00000	1.10947	11 600.00 x
eurusd	138484337	2016.03.08 12:56:09	sell	3.00	1.10143	0.00000	0.00000	1.10955	-2 436.00 x
eurusd	138485364	2016.03.10 07:46:04	sell	1.00	1.09792	0.00000	0.00000	1.10955	-1 163.00 x
eurusd	138492887	2016.03.10 16:41:20	buy	1.00	1.11486	0.00000	0.00000	1.10947	-539.00 x

Balance: 7 907.01 USD Equity: 50 790.68 Margin: 22 832.86 Free Margin: 27 957.82 Margin Level: 222.45 % 42 883.67

Trade Exposure History News Mailbox Calendar Company Market Alerts Signals Code Base Experts Journal

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