```
import numpy as np

date, open, high, low, last, close, total, turnover = np.loadtxt('c:\Python27\NSE-WIPRO.csv',
                                        delimiter=',' , unpack=True, dtype='str')

print 'The type of the labels : \n', type(date), type(open), type (high), type(low),
type(last), type(close), type(total), type(turnover)

print "\nFirst index values :\n " , date[1],open[1], high[1],low[1],last[1],total[1],turnover[1]

print '\nLength of element', len(date)
for x in date:
   print x
fd=open('wipronew.csv','a')
import numpy as np

date, open, high, low, last, close, total, turnover = np.loadtxt('C:\Python27\NSE-WIPRO.csv',
                                        delimiter=',' , unpack=True,  dtype='str')

x = 0

for eachdate in date:
   saveline = eachdate + ',' + open[x] + ',' + low[x] + ',' + high[x] + ',' + last[x]+ ',' + close[x] + ',' + \
   total[x] + ',' +  turnover[x] +'\n'
   #print saveline
   fd.write(saveline)
   x+=1

print 'File save Operation successful...'
fd.close()
```

```
import time as t
import datetime as dt

print 'Printing t : ', t
print 'Printing dt : ', dt
print 'Unix time stamp can be generated using', t.time()

nw = dt.datetime(2016, 8, 26, 12, 30, 45)

print "Current time: ", nw
print "Year : " , nw.year, "Month : ", nw.month, "Day : ", nw.day
print "Hours : " , nw.hour, "Minute : ", nw.minute, "Second :" ,nw.second
print "Microseconds" , nw.microsecond

print "Current system date : ", dt.datetime.today()
print "Current system time : ", dt.datetime.now()
print 'Formating datetime : ', nw.strftime("%Y%m%d %H%M%S")
```

```
import pandas as pd
import datetime
import pandas.io.data as web
import matplotlib.pyplot as plt
from matplotlib import style

#style.use('ggplot')

start = datetime.datetime(2010, 1, 1)
end = datetime.datetime(2015, 8, 22)

df = web.DataReader("XOM", "yahoo", start, end)

print(df.head())

df['Adj Close'].plot()
plt.legend()
plt.show()
#Simple plot example - 1

import matplotlib.pyplot as plt

x = [10,20,30,40,50]
y = [100,200,300,400,500]

plt.plot(x,y)

plt.show()
```

```
#Plotting and use of labels and titles example - 2

import matplotlib.pyplot as plt

x = [100,200,300,400,500]
y = [10,20,30,40,50]

plt.plot(x,y)

plt.xlabel('X - Plot Numbers')
plt.ylabel('Y - Cordinate Values')

plt.title('Title - Sample Visualization Chart')


plt.show()
```

```
#Plotting and use of labels and titles example - 2
import matplotlib.pyplot as plt
```

```
x = []
y = []

fd = open('c:\python27\sample.csv','r')
splitvalue =  fd.read().split('\n')
fd.close()

for val in splitvalue:
   z = val.split(',')
   x.append(int(z[0]))
   y.append(int(z[1]))

plt.plot(x,y)
plt.xlabel('X - Plot Numbers')
plt.ylabel('Y - Cordinate Values')
plt.title('Title - Sample Visualization Chart')
plt.show()
```

```
#Ploting multiple plots on same window - example 3
import matplotlib.pyplot as plt

x = [100,200,300,400,500]
y = [10,20,30,40,50]

x1 = [150, 250, 350, 450, 550]
y1 = [5, 25, 40, 15, 30]

plt.plot(x, y, label = 'Line 1')
plt.plot(x1, y1, label = 'Line 2')

plt.xlabel('X - Plot Numbers')
plt.ylabel('Y - Cordinate Values')

plt.title('Title - Sample Visualization Chart')
plt.legend()

plt.show()
```

```
#Sample plot of Bar style example - 4
import matplotlib.pyplot as plt

x = [10,20,30,40,50]
y = [15,10,20,25,30]

x1 = [5, 15, 25, 35, 45]
y1 = [10, 5, 7, 15, 20]

plt.bar(x, y, label = 'Bar style - 1')
```

```
plt.bar(x1, y1, label = 'Bar style -2')

plt.xlabel('x - Label')
plt.ylabel('y - Label')

plt.title('Sample Bar Chart')
plt.legend()
plt.show()
import matplotlib.pyplot as plt

x = [10,20,30,40,50]
y = [15,10,20,25,30]

x1 = [5, 15, 25, 35, 45]
y1 = [10, 5, 7, 15, 20]

plt.bar(x, y, label = 'Bar style - 1', color='r')
plt.bar(x1, y1, label = 'Bar style -2', color ='c')

plt.xlabel('x - Label')
plt.ylabel('y - Label')

plt.title('Sample Bar Chart')
plt.legend()

plt.show()
```

```
import matplotlib.pyplot as plt
import numpy as np

population = [21, 55, 62, 45, 29, 25, 34, 42, 90, 80, 10]
bins = [0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100]


plt.hist(population, bins, histtype='bar', rwidth=0.5)

plt.xlabel('x - Label')
plt.ylabel('y - Label')

#plt.bar(population,bins)

plt.title('Sample Bar Chart')
plt.show()
```

```
import matplotlib.pyplot as plt

x = [1,2,3,4,5,6,7,8,9]
y = [5,3,4,6,9,3,1,7,8]
```

```
plt.scatter(x, y, label='Scatter', color='c') # marker = o , change the plot marker

plt.xlabel('x - Label')
plt.ylabel('y - Label')
plt.legend()
plt.title('Sample Scatter Plot')
plt.show()
import matplotlib.pyplot as plt

days = [1,2,3,4,5]

sleeping =[7, 8, 6, 11, 7]
eating  = [2, 3, 1, 3, 2]
working=[10,11,9,8,9]
playing=[5, 2, 4, 3, 1]

plt.stackplot(days, sleeping, eating, working, playing, colors = ['c','m','b','r'])

plt.xlabel('x - Label')
plt.ylabel('y - Label')
plt.legend()
plt.title('Sample Stack Plot')
plt.show()
```

```
import matplotlib.pyplot as plt

days = [1,2,3,4,5]

sleeping =   [7, 8, 6, 9, 7]
eating=      [2, 3, 1, 2, 2]
working=    [10,11,9,8,9]
travel=      [5, 2, 4, 3, 1]

plt.plot([],[], color='c', label='Sleeping', linewidth=5)
plt.plot([],[], color='m', label='Eating', linewidth=5)
plt.plot([],[], color='b', label='Working', linewidth=5)
plt.plot([],[], color='r', label='Travel', linewidth=5)

plt.stackplot(days, sleeping, eating, working, travel, colors = ['c','m','b','r'])

plt.xlabel('x - Label')
plt.ylabel('y - Label')
plt.legend()
plt.title('Sample Stack Plot')
plt.show()
```

```
import matplotlib.pyplot as plt
```

```
slices =  [7, 1, 10, 4]

activities = ['sleeping','eating','working','travel']

c = ['c','m','r','b']

plt.pie(slices, labels = activities, colors=c, startangle = 90, explode = (0,0.1,0,0), autopct ='%1.1f%%',
      shadow=True)

plt.title('Sample Pie Chart Plot')

plt.show()
```

```
import matplotlib.pyplot as plt
import csv
x=[]
y=[]

with open('C:\Python27\NSE-WIPRO.csv','r') as csvfile:
   plots = csv.reader(csvfile, delimiter=',')
   for row in plots:
      x.append(float(row[1]))
      y.append(float(row[2]))


plt.plot(x,y, label='Loaded from file')

plt.xlabel('X - Label here')
plt.xlabel('Y - Label here')
plt.legend()
plt.title('Sample Data Plot from file')
plt.show()
```

```
import matplotlib.pyplot as plt
import matplotlib.dates as mdates
import numpy as np


c1, c2 = np.loadtxt('C:\Python27\NSE-WIPRO-1.csv', delimiter=',' , unpack=True)

plt.plot(c1, c2, label='Loaded from file using Numpy')

plt.xlabel('X - Label here')
plt.xlabel('Y - Label here')
plt.legend()
plt.title('Sample Data Plot from file')
plt.show()
import matplotlib.pyplot as plt
import matplotlib.dates as mdates
```

```
import numpy as np


c1, c2, c3,c4,c5, c6, c7, c8 = np.loadtxt('C:\Python27\NSE-WIPRO.csv', delimiter=',' , unpack=True,
                                converters = {0: mdates.strpdate2num('%d-%m-%Y') } )

fig = plt.figure()
ax1 = fig.add_subplot(1,1,1,axisbg='white')
plt.plot_date(x=c1, y=c2, fmt='-')

plt.xlabel('X - Label here')
plt.xlabel('Y - Label here')
plt.legend()
plt.title('Sample Data Plot from file')
plt.show()
```

```
import pandas as pd

df = pd.read_csv('C:\Python27\NSE-WIPRO.csv')

print 'Type of the df is : ', type(df)
print 'The data frame is :', df
import pandas as pd

df = pd.read_csv('C:\Python27\NSE-WIPRO.csv')

print 'The first default few rows of the file :\n',  df.head()

print  'The first 10 file is :\n',  df.head(n=10)
print 'The indexes are ', df.index
print 'The columns are', df.columns
print 'The dimension / shape of data frame', df.shape
print 'The specific value \n', df[df.D==515]
```
