

# EXPERIMENT :21

## AIM:-

Pandas program to swap the cases of a specified character column in a given Data Frame.

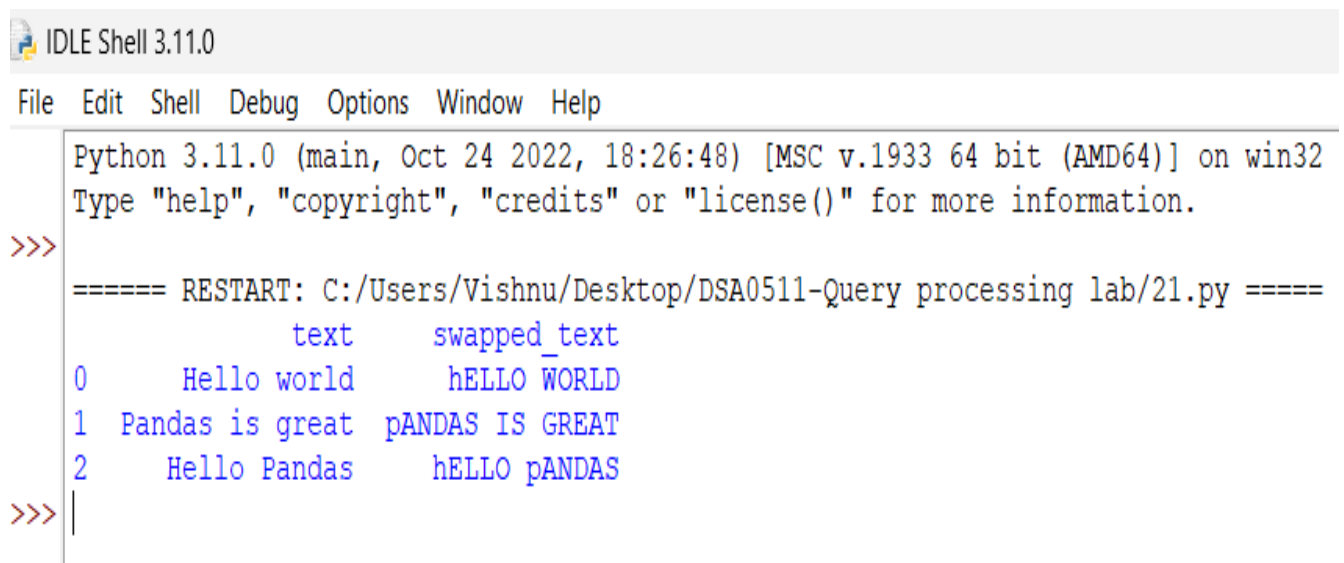
## CODE:-

```
*21.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/21.py (3.11.0)*  
File Edit Format Run Options Window Help  
import pandas as pd  
  
data = {'text': ['Hello world', 'Pandas is great', 'Hello Pandas']}  
df = pd.DataFrame(data)  
  
df['swapped_text'] = df['text'].str.swapcase()  
print(df)
```

INPUT:-

DATA:- [HELLO WORLD, PANDAS IS GREAT , HELLO PANDAS]

OUTPUT:-




```
IDLE Shell 3.11.0
File Edit Shell Debug Options Window Help
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/21.py =====
      text      swapped_text
0   Hello world    hELLO WORLD
1 Pandas is great  pANDAS IS GREAT
2   Hello Pandas    hELLO pANDAS
>>> |
```

# EXPERIMENT :22

AIM:-

Python program to draw a line with suitable label in the x axis, y axis and a title

CODE:-

 22.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/22.py (3.11.0)

File Edit Format Run Options Window Help

```
import matplotlib.pyplot as plt

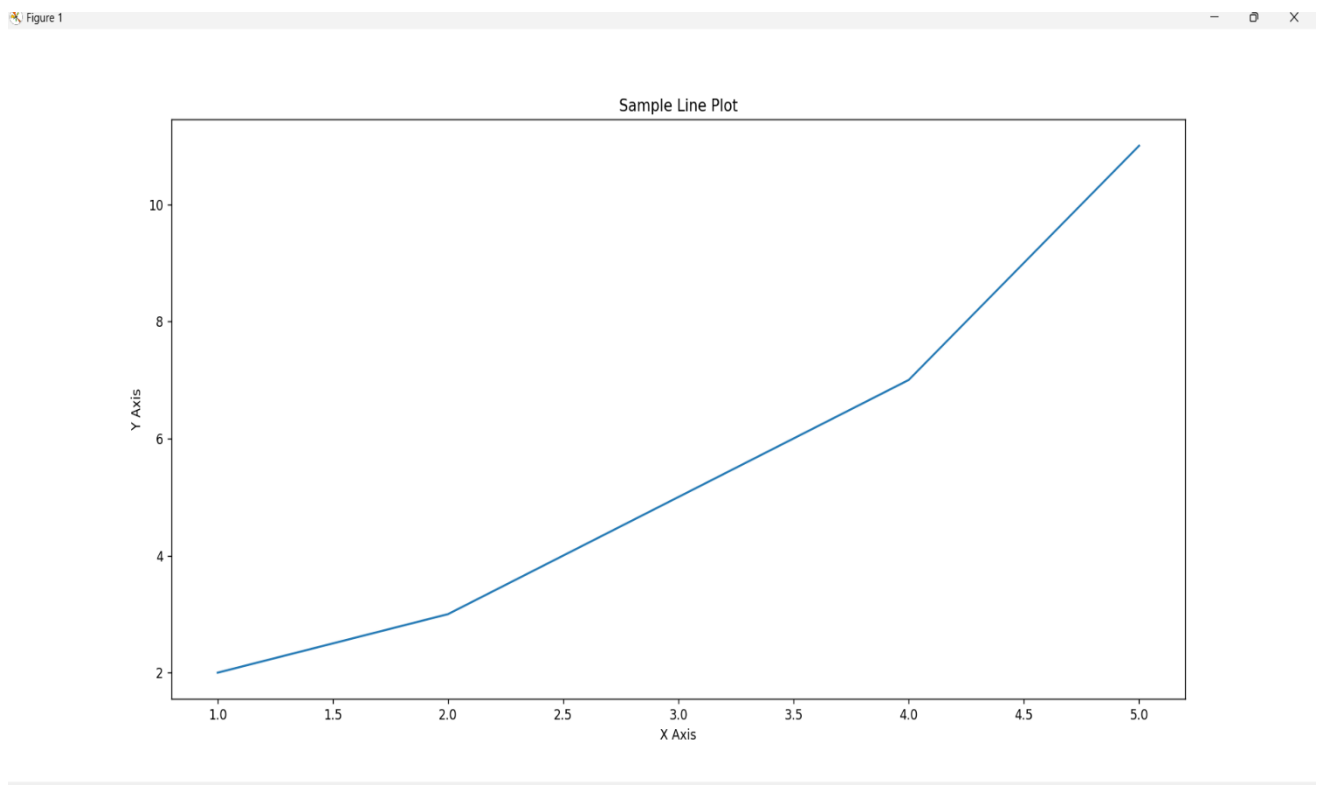
x = [1, 2, 3, 4, 5]
y = [2, 3, 5, 7, 11]
plt.plot(x, y)
plt.xlabel('X Axis')
plt.ylabel('Y Axis')
plt.title('Sample Line Plot')
plt.show()
```

INPUT:-

$X=[1,2,3,4,5]$

$Y=[2,3,5,7,11]$

OUTPUT:-



# EXPERIMENT :23

## AIM:-

Python program to draw a line using given axis values taken from a text file, with suitable label in the x axis, y axis and a title

## CODE:-

23.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/23.py

File Edit Format Run Options Window Help

```
import pandas as pd
import matplotlib.pyplot as plt

data = {
    'X': [0, 1, 2, 3, 4, 5],
    'Y': [0, 1, 4, 9, 16, 25]
}
df = pd.DataFrame(data)

x = df['X']
y = df['Y']

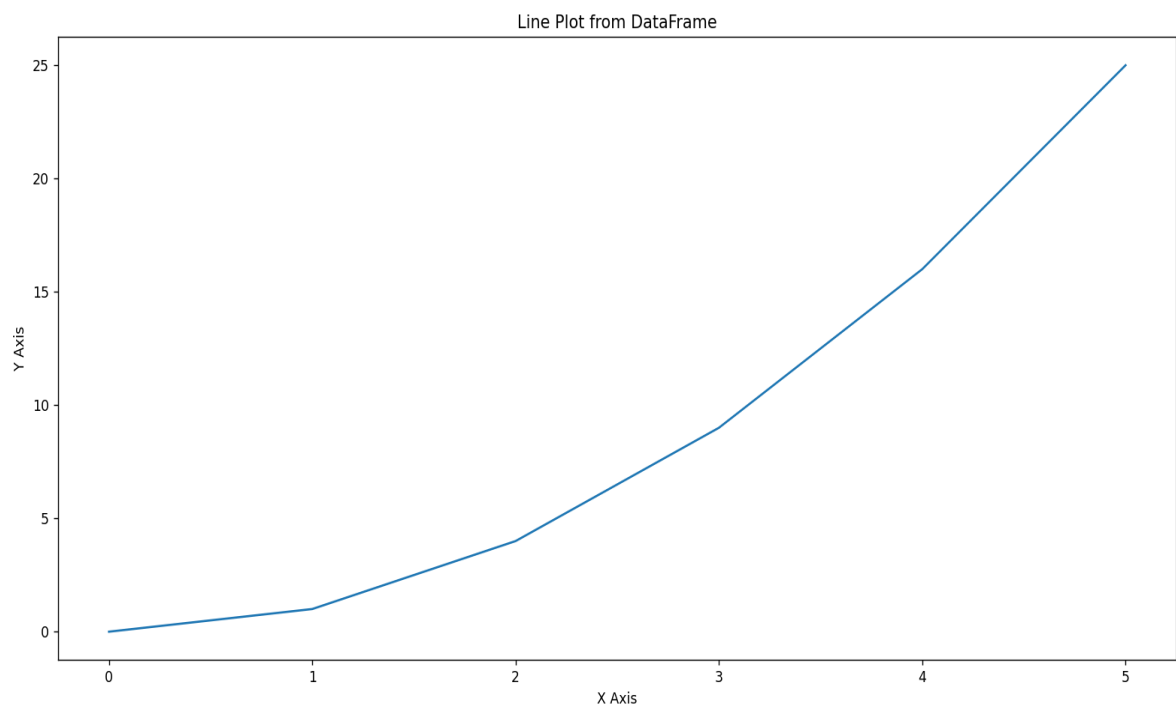
plt.plot(x, y)
plt.xlabel('X Axis')
plt.ylabel('Y Axis')
plt.title('Line Plot from DataFrame')
plt.show()
```

# INPUT

$X = [0,1,2,3,4,5]$

$Y = [0,1,4,9,16,25]$

# OUTPUT



# EXPERIMENT :24

## AIM

Python program to draw line charts of the financial data of Alphabet Inc. between October 3, 2016 to October 7, 2016.

## CODE

```
24.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/24.py (3.11.0)
File Edit Format Run Options Window Help

import pandas as pd
import matplotlib.pyplot as plt

data = {
    'Date': pd.date_range(start='2023-01-01', periods=10, freq='D'),
    'Open': [1500, 1520, 1510, 1530, 1540, 1550, 1560, 1570, 1580, 1590],
    'Close': [1510, 1525, 1515, 1535, 1545, 1555, 1565, 1575, 1585, 1595]
}
df = pd.DataFrame(data)

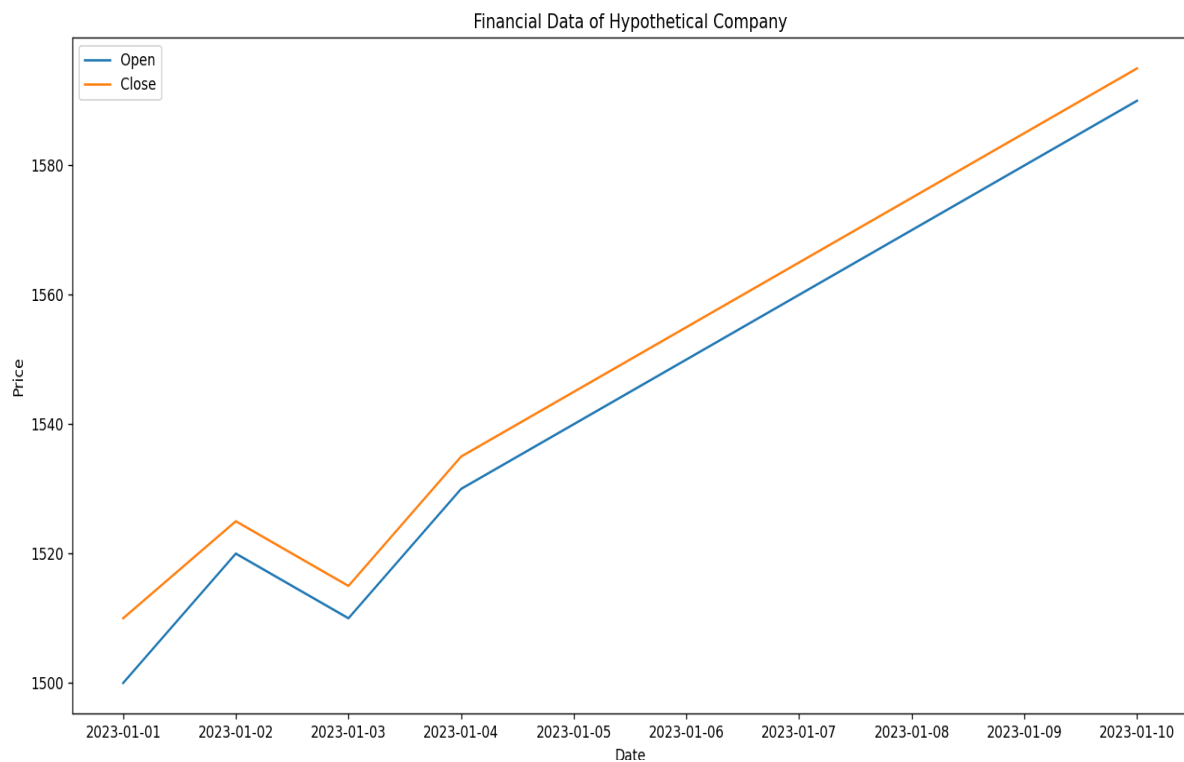
plt.plot(df['Date'], df['Open'], label='Open')
plt.plot(df['Date'], df['Close'], label='Close')
plt.xlabel('Date')
plt.ylabel('Price')
plt.title('Financial Data of Hypothetical Company')
plt.legend()
plt.show()
```

## INPUT

Open=[1500,1520,1510,1530,1540,1550,1560,1570,1580,1590]

Close =[1510,1525,1515,1535,1545,1555,1565,1575,1585,1595]

## OUTPUT





# EXPERIMENT :25

## AIM

Python program to plot two or more lines with legends, different widths and colors

## CODE

```
25.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/25.py (3.11.0)
File Edit Format Run Options Window Help
import matplotlib.pyplot as plt

x = [1, 2, 3, 4, 5]
y1 = [2, 3, 5, 7, 11]
y2 = [1, 4, 6, 8, 10]
|
plt.plot(x, y1, label='Line 1', linewidth=2, color='blue')
plt.plot(x, y2, label='Line 2', linewidth=4, color='red')
plt.xlabel('X Axis')
plt.ylabel('Y Axis')
plt.title('Multiple Lines with Legends')
plt.legend()
plt.show()
```

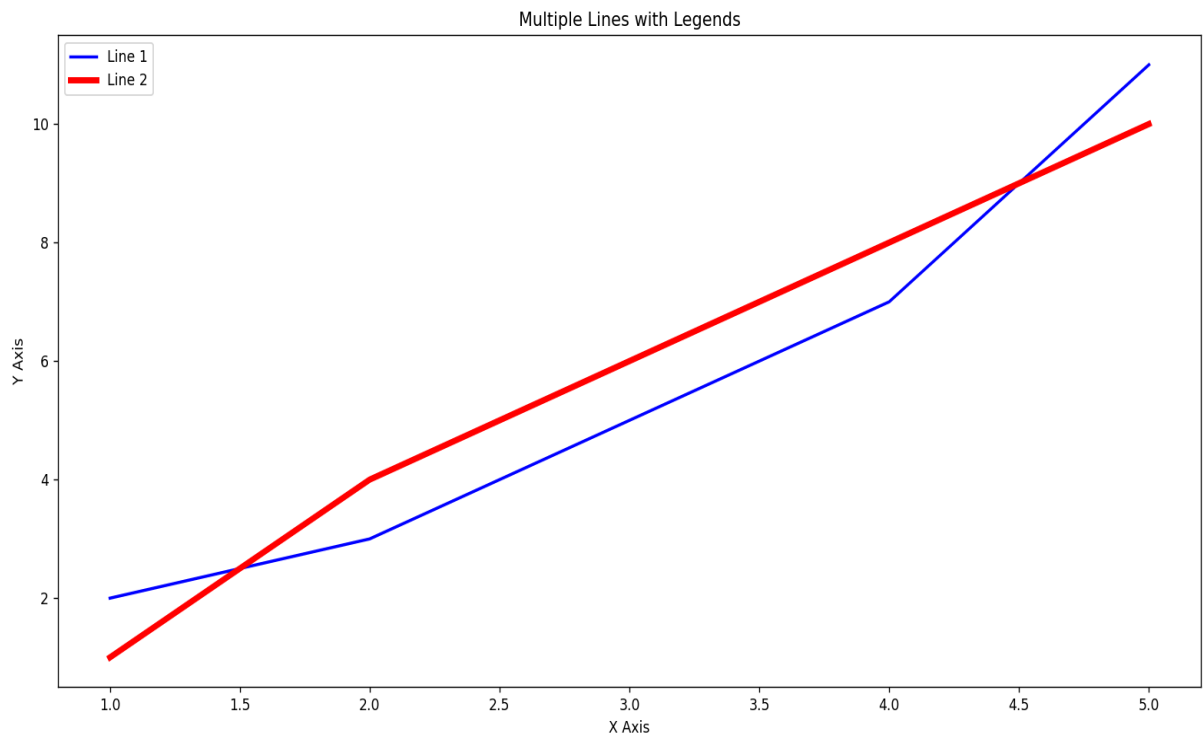
## INPUT

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

Y1=[2,3,5,7,11]

Y2=[1,4,6,8,10]

## OUTPUT



# EXPERIMENT :26

## AIM

Python program to create multiple plots.

## CODE

```
26.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/26.py (3.11.0)
File Edit Format Run Options Window Help
import matplotlib.pyplot as plt

x = [1, 2, 3, 4, 5]
y1 = [2, 3, 5, 7, 11]
y2 = [1, 4, 6, 8, 10]

fig, axs = plt.subplots(2)

axs[0].plot(x, y1, label='Line 1')
axs[1].plot(x, y2, label='Line 2')
|
axs[0].set_title('Subplot 1')
axs[1].set_title('Subplot 2')
axs[0].set_xlabel('X Axis')
axs[0].set_ylabel('Y Axis')
axs[1].set_xlabel('X Axis')
axs[1].set_ylabel('Y Axis')

plt.show()
```

## INPUT

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

Y1=[2,3,5,7,11]

Y2=[1,4,6,8,10]

## OUTPUT

