# Assignment

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ROLL NO. = 20201417
DATA AND VISUALIZATION
PANDAS

Q:1 write a pandas program to create and display a one-dimensional array-like object containing an array of data using pandas module.

Ans
```
import pandas as pd
ds = pd.series([1,2,3,4,5])
print(ds)
```

o/p :-
```
0 2
1 4
2 6
3 8
4 10
dtype: int64
```

Q:2 write a pandas program to convert a panda module series to python list & it's type.

Ans
```
import pandas as pd
ds = pd.series([2,4,6,8,10])
print("pandas series & type")
print(ds)
print(type(ds))
print("convert pandas series to python list")
print(ds.tolist())
print(type(ds.tolist()))
```

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Q:3 Write a pandas program to add, subtract multible & divide two pandas series.

Ans.
```
import pandas as pd
ds1 = pd.series ([2,4,6,8,10])
ds2 = pd.series ([1,3,5,7,9])
# add two series
    ds3 = ds1 + ds2
    ds4 = ds1 - ds2
    ds5 = ds1 * ds2
    ds6 = ds1 / ds2
print (ds3)
print (ds4)
print (ds5)
print (ds6)
```

Q:4 write a pandas program to convert a dictionary to a pandas series.
sample series
{'a':100, 'b':200, 'c':300, 'd':400, 'e':800}

Ans.
```
import pandas as pd
d1 = {'a':100, 'b':200, 'c':300, 'd':400, 'e':800}
print ("Original dictionary:")
print (d1)
new_series = pd.series (d1)
print ("converted series")
print (new_series)
```

Q:5 write a pandas program to convert the first column of a dataframe as a series.

Ans:-
```
import pandas as pd
s1 = pd.series ( ['100','200','python','300.12','400'
                                                    ])
print ("original Data series:")
print (s1)
print ("change the said data type to numeric:")
s2 = pd.to_numeric(s1, errors ='coerce')
print (s2)
```

a:6 write a pandas program to convert the first column of a dataframe as a series.

Ans:
```
import pandas as pd
d = {'col1' : [1,2,3,4,7,11], 'col2' : [4,5,6,9,
                                        5,0],
     'col3' : [7,5,8,12,1,11]}
df = pd.dataframe (data = d)
print ("original Dataframe")
print(df)
s1 = df.ix[:,0]
print ("\n1st column as a series:")
print (s1)
print (type (s1))
```

a:7 write a pandas program to convert a given series to an array.

Ans.
```
import pandas as pd
import numpy as np
s1 = pd.series ( ['100','200','python','300.12','400'])
print ("original Data series:")
print (s1)
print ("series to an array")
a = np.array (s1.values.tolist())
print (a)
```

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Q:8 Write a pandas program to convert series of list to one series.

Sample series : (0 : [Red, Green, White], 1 : [Red, Black], 2 : [Yellow])

Ans
```
import pandas as pd
s = pd.series ( 0 : [Red, Green, White], 1 : [Red,
                Black], 2 : [Yellow])
print ("original series of list")
s = s.apply (pd.series).stack().reset_
        index ( drop = True)
print (s)
```

Q:9 Write a pandas program to sort a given series.

Ans
```
import pandas as pd
s = pd.series (['100', '200', 'python', '300.12', '400'])
print ("original data series")
print (s)
new_s = pd.series (s).sort_values ()
print (new_s)
```

Q:10 Write a pandas program to add some data to an existing series.

Ans
```
import pandas as pd
s = pd.series (['100', '200', 'python', '300.12', '400'])
print ("original data series")
print (s)
print
new_s = s.append (pd.series (['500', 'php']))
print (new_s)
```