In [1]:
```
#import module pandas
import pandas as pd
```

In [2]:
```
#print a series
a=['a','b','c','d']
s=pd.Series(a)
print(s)
```

```
0    a
1    b
2    c
3    d
dtype: object
```

In [3]:
```
#print series with index
a=['Apple','Banana','Cat']
s=pd.Series(a,index=['A','B','C'])
print(s)
```

```
A     Apple
B    Banana
C       Cat
dtype: object
```

In [4]:
```
#locating value in series using index
a=['Apple','Banana','Cat']
s=pd.Series(a,index=['A','B','C'])
print(s['A'])
```

```
Apple
```

In [5]:
```
#series using dictionary
dict={'A':'Apple','B':'Ball','C':'Cat'}
s=pd.Series(dict)
print(s)
```

```
A    Apple
B     Ball
C      Cat
dtype: object
```

In [6]:
```
#multiples of 2 and 3
a = [i
     for i in range (31)
       if (i % 3 == 0) and (i % 2 == 0)]
s=pd.Series(a)
print(s[1:])
```

```
1     6
2    12
3    18
4    24
5    30
dtype: int64
```

In [7]:
```
#Course and number of students using series
a=['30','55','20']
s=pd.Series(a,index=['MCA','MTech','BTech'])
print(s)
```

```
MCA      30
MTech    55
BTech    20
dtype: object
```

In [8]:
```
#Course and number of students using dataframe
data = {"Batch": ['MCA', 'BCA', 'BTech'], "Number of Students": [50, 40, 45]}
d=pd.DataFrame(data,index=['B1','B2','B3'])
print(d)
```

```
    Batch  Number of Students
B1    MCA                  50
B2    BCA                  40
B3  BTech                  45
```

In [9]:
```
#Details of 5 students using dataframe
data = {"Name": ['Ayesha', 'Sree', 'Praveena','Sam','Eve'],
        "Percentage": [80, 90, 95,55,75],
        "Grade":['B','A','A','D','C']}
d=pd.DataFrame(data)
print(d)
```

```
       Name  Percentage Grade
0    Ayesha          80     B
1      Sree          90     A
2  Praveena          95     A
3       Sam          55     D
4       Eve          75     C
```

In [14]:
```
df.dropna()
```

Out[14]:

	Roll no	Name	Mark
0	1	Arun	82
1	2	Antony	84
2	3	Sam	76
3	4	Smith	98
4	5	Zoya	99

In [11]:
```
#Details of 5 students using dataframe WITH INDEX NAME
data = {"Percentage": [80, 90, 95,55,75],
        "Grade":['B','A','A','D','C']}
d=pd.DataFrame(data,index=['Ayesha', 'Sree', 'Praveena','Sam','Eve'])
print(d)
```

```
          Percentage Grade
Ayesha            80     B
Sree              90     A
Praveena          95     A
Sam               55     D
Eve               75     C
```

In [13]:
```
df=pd.read_csv('C:/Users/Admin/Downloads/marks.csv')
print(df)
```

```
   Roll no    Name  Mark
0        1    Arun    82
1        2  Antony    84
2        3     Sam    76
3        4  Smith     98
4        5    Zoya    99
```

In [ ]:
```
#Loc function
print(d.loc[[2,3]])
```

```
       Name  Percentage Grade
2  Praveena          95     A
3       Sam          55     D
```

In [17]:
```
import csv
with open('C:/Users/Admin/Downloads/marks.csv','rt')as f:
  data = csv.reader(f)
  for row in data:
        print(row)
```

```
['Roll no', 'Name', 'Mark']
['1', 'Arun', '82']
['2', 'Antony', '84']
['3', 'Sam', '76']
['4', 'Smith ', '98']
['5', 'Zoya', '99']
```

In [ ]:
```
df = pd.read_csv ('std1.csv')
# print(df)
dup = df.duplicated()
print(dup)
```

```
0    False
1    False
```

```
2    False
3    False
4    False
5     True
dtype: bool
```

In [ ]:
```
df = pd.read_csv ('std1.csv')
dup=df.drop_duplicates()
print(dup)
```

```
   Roll number    name   mark
0            1     Arun    76
1            2  Anthony    84
2            3      Sam    92
3            4    Smith    66
4            5     Zoya    99
```

In [ ]:
```
df.head(3)
```

Out[ ]:

	Roll number	name	mark
0	1	Arun	76
1	2	Anthony	84
2	3	Sam	92

In [ ]:
```
df.tail(2)
```

Out[ ]:

	Roll number	name	mark
4	5	Zoya	99
5	1	Arun	76

In [ ]:
```
df.corr()
```

Out[ ]:

	Roll number	mark
Roll number	1.000000	0.411412
mark	0.411412	1.000000

In [ ]:
```
import numpy as np
import pandas as pd
array1 = np.array([1,2,3,4])
series3 = pd.Series(array1)
print("Serires :",series3)
print("Array :",array1)
```

```
Serires : 0    1
1    2
2    3
3    4
dtype: int64
Array : [1 2 3 4]
```