In [2]:
```
import pandas as pd
import numpy as np
arr=np.array(['p','a','n','d','a','s'])
a=pd.Series(arr)
print("series from array:")
print(a)
```

```
series from array:
0    p
1    a
2    n
3    d
4    a
5    s
dtype: object
```

In [3]:
```
arr={'x':0,'y':1,'z':2}
b=pd.Series(arr)
print("\n series from dictionary:\n")
print(b)
```

```
 series from dictionary:

x    0
y    1
z    2
dtype: int64
```

In [4]:
```
x=pd.Series(4,index=[0,1,2,3])
print("\n series using scalar\n")
print(x)
```

```
 series using scalar

0    4
1    4
2    4
3    4
dtype: int64
```

In [5]:
```
x=pd.Series([1,2,3],index=['a','b','c'])
print("\n series through index:")
print(x)
a=pd.Series(data=[1,2,3,4])
print("\n series:\n",a)
print("\n index:\n",a.index)
print("\n values:\n",a.values)
print("\n shapes:",a.shape)
print("\n dimension:",a.ndim)
print("\n size:",a.size)
```

```
 series through index:
a    1
b    2
c    3
dtype: int64

 series:
 0    1
1    2
2    3
3    4
dtype: int64

 index:
 RangeIndex(start=0, stop=4, step=1)

 values:
 [1 2 3 4]

 shapes: (4,)

 dimension: 1

 size: 4
```

In [10]:

```
df=pd.DataFrame()
print(df)
emp=pd.Series(['parker','john','smith','william'])
id=pd.Series([102,107,109,114])
frame={'Emp':emp,'ID':id}
result=pd.DataFrame(frame)
print("\n Series to data frame\n")
print(result)
print("\n Extracting one column:\n")
print(result['Emp'])
print("\n extracting the third row:\n")
print(result.loc[2])
print("\n adding new column:\n")
result['Age']=pd.Series([35,24,40,38])
print(result)
d2=pd.DataFrame([['Dale',123,25],['mark',143,30]],columns=['Emp','ID','Age'])
print("\n adding new row values:\n",result.append(d2))
print("\n deleting one column:\n")
del result['Age']
print(result)
print("\n deleting particular row:\n",result.drop(1))
```

```
Empty DataFrame
Columns: []
Index: []

 Series to data frame

       Emp   ID
0   parker  102
1     john  107
2    smith  109
3  william  114

 Extracting one column:

0     parker
1       john
2      smith
3    william
Name: Emp, dtype: object

 extracting the third row:

Emp    smith
ID       109
Name: 2, dtype: object

 adding new column:

       Emp   ID  Age
0   parker  102   35
1     john  107   24
2    smith  109   40
3  william  114   38

 adding new row values:
        Emp   ID  Age
0   parker  102   35
1     john  107   24
2    smith  109   40
3  william  114   38
0     Dale  123   25
1     mark  143   30

 deleting one column:

       Emp   ID
0   parker  102
1     john  107
2    smith  109
3  william  114

 deleting particular row:
        Emp   ID
0   parker  102
2    smith  109
3  william  114
C:\Users\Tcs\AppData\Local\Temp\ipykernel_928\2585086799.py:17: FutureWarning: The
frame.append method is deprecated and will be removed from pandas in a future vers
ion. Use pandas.concat instead.
  print("\n adding new row values:\n",result.append(d2))
```

In [1]:
```
import numpy as np
import pandas as pd
a=pd.DataFrame([[2,7,3]]*3,columns=['a','b','c'])
```

```
#print(a)
b=a.apply(np.sqrt)
print(b)
c=a.apply(np.sum,axis=0)
print(c)
d=a.apply(np.sum,axis=1)
print(d)
print(a.agg(['min','max']))
a['d']=[1,2,3]
print(a)
m=a.assign(e=[7,6,5])
a=m
print(a.sort_values(by='e'))
print(pd.merge(a,a,on='a'))
```

```
          a         b         c
0  1.414214  2.645751  1.732051
1  1.414214  2.645751  1.732051
2  1.414214  2.645751  1.732051
a     6
b    21
c     9
dtype: int64
0    12
1    12
2    12
dtype: int64
     a  b  c
min  2  7  3
max  2  7  3
   a  b  c  d
0  2  7  3  1
1  2  7  3  2
2  2  7  3  3
   a  b  c  d  e
2  2  7  3  3  5
1  2  7  3  2  6
0  2  7  3  1  7
   a  b_x  c_x  d_x  e_x  b_y  c_y  d_y  e_y
0  2    7    3    1    7    7    3    1    7
1  2    7    3    1    7    7    3    2    6
2  2    7    3    1    7    7    3    3    5
3  2    7    3    2    6    7    3    1    7
4  2    7    3    2    6    7    3    2    6
5  2    7    3    2    6    7    3    3    5
6  2    7    3    3    5    7    3    1    7
7  2    7    3    3    5    7    3    2    6
8  2    7    3    3    5    7    3    3    5
```

In [2]:

```
import numpy as np
import pandas as pd
a=pd.DataFrame([[1,'RAJINI',20,15],[2,'KAMAL',90,87],[3,'AJITH',85,87],[4,'VIJAY',0
print(a)
b=pd.DataFrame([[1,'FAIL'],[2,'PASS'],[3,'PASS'],[4,'FAIL'],[5,'PASS']],columns=['F
print(b)
c=pd.merge(a,b,on='ROLL NUM')
print(c)
k=c.mean(axis=0,numeric_only=True)
print(k)
#print(c['NAME'])
#print(c[0:3])
#print(c.loc[2])
print(c.to_excel('marksheet2.xlsx'))
print(c.to_csv('marksheet.csv'))
```

```
   ROLL NUM    NAME  SUBJECT 1  SUBJECT 2
0         1  RAJINI         20         15
1         2   KAMAL         90         87
2         3   AJITH         85         87
3         4   VIJAY          0          2
4         5   SURYA         80         82
   ROLL NUM RESULT
0         1   FAIL
1         2   PASS
2         3   PASS
3         4   FAIL
4         5   PASS
   ROLL NUM    NAME  SUBJECT 1  SUBJECT 2 RESULT
0         1  RAJINI         20         15   FAIL
1         2   KAMAL         90         87   PASS
2         3   AJITH         85         87   PASS
3         4   VIJAY          0          2   FAIL
4         5   SURYA         80         82   PASS
ROLL NUM      3.0
SUBJECT 1    55.0
SUBJECT 2    54.6
dtype: float64
None
None
```

In [ ]:

In [21]:
```
import numpy as np
import matplotlib.pyplot as mp
a=np.array([1,2])
y=mp.plot(a)
mp.show(y)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Input In [21], in <cell line: 4>()
      2 import matplotlib.pyplot as mp
      3 a=np.array([1,2])
----> 4 y=mp.plot(a)
      5 mp.show(y)

TypeError: 'numpy.ndarray' object is not callable
```

In [ ]: