In [7]:
```
import pandas
pandas.__version__
```

Out[7]:
```
'1.3.4'
```

In [8]:
```
import pandas as pd
a= {
  'Stars': ["Yang", "Wang", "Song","Yoo"],
  'Ranks':[1,2,3,4],
   'Awards range':[10,8,6,5]
}

b=pd.DataFrame(a)

print(b)
```

```
  Stars  Ranks  Awards range
0  Yang      1            10
1  Wang      2             8
2  Song      3             6
3   Yoo      4             5
```

In [9]:
```
#Series
import pandas as pd
a=[5,55,555,5555]
b=pd.Series(a)
print(b)
```

```
0       5
1      55
2     555
3    5555
dtype: int64
```

In [10]:
```
import pandas as pd
a=[5,55,555,5555]
b=pd.Series(a)
print(b)
print(a[1])
```

```
0       5
1      55
2     555
3    5555
dtype: int64
55
```

In [11]:
```
import pandas as pd
a = [5,55,555]
Stars=pd.Series(a,index = ["Y", "K", "W"])
print(Stars)
```

```
Y      5
K     55
```

```
W    555
dtype: int64
```

In [15]:
```
import pandas as pd
a = [5,55,555]
Stars=pd.Series(a,index = ["Y", "K", "W"])
print(Stars)
print(Stars["Y"])
```

```
Y      5
K     55
W    555
dtype: int64
5
```

In [16]:
```
import pandas as pd
Stars={"Yang":5, "Kai":55,"Wang":555}
a=pd.Series(Stars)
print(a)
```

```
Yang      5
Kai      55
Wang    555
dtype: int64
```

In [17]:
```
import pandas as pd
Stars={"Yang":5, "Kai":55,"Wang":555}
a=pd.Series(Stars,index=["Yang","Wang"])
print(a)
```

```
Yang      5
Wang    555
dtype: int64
```

In [18]:
```
import pandas as pd
Talent= {
  "Stars": ["Yang","Wang","Kai"],
  "Rank": [50, 40, 45]
}
a= pd.DataFrame(Talent)
print(a)
```

```
  Stars  Rank
0  Yang    50
1  Wang    40
2   Kai    45
```

In [20]:
```
import pandas as pd
Talent= {
  "Stars": ["Yang","Wang","Kai"],
  "Rank": [50, 40, 45]
}
a= pd.DataFrame(Talent)
print(a)
print(a.loc[1])
```

```
  Stars  Rank
```

```
0  Yang    50
1  Wang    40
2   Kai    45
Stars    Wang
Rank       40
Name: 1, dtype: object
```

In [25]:

```
import pandas as pd
Talent= {
  "Stars": ["Yang","Wang","Kai"],
  "Rank": [50, 40, 45]
}
a= pd.DataFrame(Talent)
print(a.loc[[0, 1]])
```

```
  Stars  Rank
0  Yang    50
1  Wang    40
```

In [28]:

```
# Named Indexes
import pandas as pd
Talent= {
  "Stars": ["Yang","Wang","Kai"],
  "Rank": [50, 40, 45]
}
a=pd.DataFrame(Talent,index=["Top1","Top2","Top3"])
print(a)
```

```
     Stars  Rank
Top1  Yang    50
Top2  Wang    40
Top3   Kai    45
```

In [31]:

```
# Named Indexes
import pandas as pd
Talent= {
  "Stars": ["Yang","Wang","Kai"],
  "Rank": [50, 40, 45]
}
a=pd.DataFrame(Talent,index=["Top1","Top2","Top3"])
print(a.loc[["Top1"]])
```

```
     Stars  Rank
Top1  Yang    50
```

In [34]:

```
import pandas as pd
a=pd.read_csv('Stars.csv')
print(a)
```

```
   Serial.no      Flavours  Stars  Ranks
0          1    Strawberry   Yang      1
1          2       Vanilla    Kai      4
2          3     Chocolate   Wang      6
3          4   Blackforest   Fang      7
4          5  Butterscotch   Song      8
5          6         Pista    Wei      9
6          7         Mango  Xiong     10
```

```
7          8        Orange    Xin     12
8          9         Grape   Jong     14
```

In [37]:
```
import pandas as pd
Talent= {
  "Stars": ["Yang","Wang",5],
  "Rank": [50, 40, 45]
}
a= pd.DataFrame(Talent)
print(a.loc[[0, 1,2]])
```

```
  Stars  Rank
0  Yang    50
1  Wang    40
2     5    45
```

In [38]:
```
import pandas as k
a=[5,55,555]
b=k.Series(a)
print(b)
```

```
0      5
1     55
2    555
dtype: int64
```

In [39]:
```
import pandas as pd
a=pd.read_csv('Stars.csv')
print(a.to_string())
```

```
   Serial.no      Flavours  Stars  Ranks
0          1    Strawberry   Yang      1
1          2       Vanilla    Kai      4
2          3     Chocolate   Wang      6
3          4   Blackforest   Fang      7
4          5  Butterscotch   Song      8
5          6         Pista    Wei      9
6          7         Mango  Xiong     10
7          8        Orange    Xin     12
8          9         Grape   Jong     14
```

In [43]:
```
import pandas as pd
print(pd.options.display.max_rows)
```

```
60
```

Cleaning Data

In [6]:
```
import pandas as pd
a=pd.read_csv('Stars.csv')
b=a.dropna()
print(b.to_string())
```

```
   Serial.no      Flavours  Stars  Ranks
0        1.0    Strawberry   Yang    1.0
1        2.0       Vanilla    Kai    4.0
```

```
2        3.0     Chocolate   Wang    6.0
3        4.0   Blackforest   Fang    7.0
4        5.0  Butterscotch   Song    8.0
6        7.0         Mango  Xiong   10.0
7        8.0        Orange    Xin   12.0
8        9.0         Grape   Jong   14.0
```

In [7]:

```
import pandas as pd
a=pd.read_csv('Stars.csv')
a.dropna(inplace=True)
print(a.to_string())
```

```
   Serial.no      Flavours Stars  Ranks
0        1.0    Strawberry  Yang    1.0
1        2.0       Vanilla   Kai    4.0
2        3.0     Chocolate  Wang    6.0
4        5.0  Butterscotch  Song    8.0
7        8.0        Orange   Xin   12.0
```

In [10]:

```
import pandas as pd
a=pd.read_csv('Stars.csv')
b=a.fillna(5,inplace=True)
print(a.to_string())
```

```
   Serial.no      Flavours Stars  Ranks
0        1.0    Strawberry  Yang    1.0
1        2.0       Vanilla   Kai    4.0
2        3.0     Chocolate  Wang    6.0
3        5.0   Blackforest  Fang    7.0
4        5.0  Butterscotch  Song    8.0
5        6.0         Pista     5    9.0
6        7.0         Mango     5   10.0
7        8.0        Orange   Xin   12.0
8        9.0             5  Jong   14.0
9        5.0             5     5    5.0
```

In [11]:

```
import pandas as pd
a=pd.read_csv('Stars.csv')
a["Top"].fillna(5, inplace = True)
print(a.to_string())
```

```
   Serial.no      Flavours   Top  Ranks
0        1.0    Strawberry  Yang    1.0
1        2.0       Vanilla   Kai    4.0
2        3.0     Chocolate  Wang    6.0
3        NaN   Blackforest  Fang    7.0
4        5.0  Butterscotch  Song    8.0
5        6.0         Pista     5    9.0
6        7.0         Mango     5   10.0
7        8.0        Orange   Xin   12.0
8        9.0           NaN  Jong   14.0
9        NaN           NaN     5    NaN
```

In [15]:

```
import pandas as pd
a=pd.read_csv('Stars.csv')
b=a["Ranks"].mean()
```

```
a["Ranks"].fillna(b, inplace = True)
print(a.to_string())
```

```
   Serial.no      Flavours   Top      Ranks
0        1.0    Strawberry  Yang   1.000000
1        2.0       Vanilla   Kai   4.000000
2        3.0     Chocolate  Wang   6.000000
3        NaN   Blackforest  Fang   7.000000
4        5.0  Butterscotch  Song   8.000000
5        6.0         Pista   NaN   9.000000
6        7.0         Mango   NaN  10.000000
7        8.0        Orange   Xin  12.000000
8        9.0           NaN  Jong  14.000000
9        NaN           NaN   NaN   7.888889
```