

```
import pandas as pd
```

```
a = [1, 3, 5, 7, 9, 2, 4, 6, 8]
a1 = pd.Series(a)
print(a1)
```

```
0    1
1    3
2    5
3    7
4    9
5    2
6    4
7    6
8    8
```

```
dtype: int64
```

```
a1 = [1,3,5,7,9,2,4,6,8]
a2 = ['a','b','c','d','e','f','g','h','i']
a3 = pd.Series(a1,a2)
```

```
print(a3)
a3['b']
```

```
a    1
b    3
c    5
d    7
e    9
f    2
g    4
h    6
i    8
```

```
dtype: int64
```

```
3
```

```
dict1 = {'Oranges':3, 'Apples':4, 'Mangoes':2, 'Banana':12}
dict2 = pd.Series(dict1)
```

```
print(dict2)
print(type(dict2))
```

```
Oranges    3
Apples     4
Mangoes    2
Banana     12
```

```
dtype: int64
```

```
<class 'pandas.core.series.Series'>
```

```
Array1 = [[1,3,5],[2,4,6]]
Array2 = pd.Series(Array1)
```

```
print(Array2)
```

```
0    [1, 3, 5]
1    [2, 4, 6]
dtype: object
```

```
Data = {'Age' :[23,33,12,45], 'Name':
['Rahul','John','Robert','Sneha']}
Data1 = pd.DataFrame(Data)
```

```
print(Data1)
```

```
   Age  Name
0   23  Rahul
1   33   John
2   12 Robert
3   45  Sneha
```

```
Data2 = [[4,1900],[3,1600],[2,1100],[1,850]]
Data3 = pd.DataFrame(Data2 , columns =
['No_of_Bedrooms','Square_Feet'])
```

```
print(Data3)
```

```
   No_of_Bedrooms  Square_Feet
0                4         1900
1                3         1600
2                2         1100
3                1          850
```

```
LOL = pd.read_csv('F:/3rd year/ML LAB/League_of_Legends.xls')
LOL
```

```
gameId,blueWins,blueWardsPlaced,blueWardsDestroyed,blueFirstBlood,blue
Kills,blueDeaths,blueAssists,blueEliteMonsters,blueDragons,blueHeralds
,blueTowersDestroyed,blueTotalGold,blueAvgLevel,blueTotalExperience,bl
ueTotalMinionsKilled,blueTotalJungleMinionsKilled,blueGoldDiff,blueExp
erienceDiff,blueCSPerMin,blueGoldPerMin,redWardsPlaced,redWardsDestroy
ed,redFirstBlood,redKills,redDeaths,redAssists,redEliteMonsters,redDra
gons,redHeralds,redTowersDestroyed,redTotalGold,redAvgLevel,redTotalEx
perience,redTotalMinionsKilled,redTotalJungleMinionsKilled,redGoldDiff
,redExperienceDiff,redCSPerMin,redGoldPerMin
0    4519157822,0,28,2,1,9,6,11,0,0,0,0,17210,6.6,1...
1    4523371949,0,12,1,0,5,5,5,0,0,0,0,14712,6.6,16...
2    4521474530,0,15,0,0,7,11,4,1,1,0,0,16113,6.4,1...
```

```
3      4524384067,0,43,1,0,4,5,5,1,0,1,0,15157,7.0,17...
4      4436033771,0,75,4,0,6,6,6,0,0,0,0,16400,7.0,18...
...
9874   4527873286,1,17,2,1,7,4,5,1,1,0,0,17765,7.2,18...
9875   4527797466,1,54,0,0,6,4,8,1,1,0,0,16238,7.2,19...
9876   4527713716,0,23,1,0,6,7,5,0,0,0,0,15903,7.0,18...
9877   4527628313,0,14,4,1,2,3,3,1,1,0,0,14459,6.6,17...
9878   4523772935,1,18,0,1,6,6,5,0,0,0,0,16266,7.0,17...
```

```
[9879 rows x 1 columns]
```

```
L0L.shape
```

```
(9879, 1)
```

```
L0L.describe
```

```
<bound method NDFrame.describe of
gameId,blueWins,blueWardsPlaced,blueWardsDestroyed,blueFirstBlood,blue
Kills,blueDeaths,blueAssists,blueEliteMonsters,blueDragons,blueHeralds
,blueTowersDestroyed,blueTotalGold,blueAvgLevel,blueTotalExperience,bl
ueTotalMinionsKilled,blueTotalJungleMinionsKilled,blueGoldDiff,blueExp
erienceDiff,blueCSPerMin,blueGoldPerMin,redWardsPlaced,redWardsDestroy
ed,redFirstBlood,redKills,redDeaths,redAssists,redEliteMonsters,redDra
gons,redHeralds,redTowersDestroyed,redTotalGold,redAvgLevel,redTotalEx
perience,redTotalMinionsKilled,redTotalJungleMinionsKilled,redGoldDiff
,redExperienceDiff,redCSPerMin,redGoldPerMin
```

```
0      4519157822,0,28,2,1,9,6,11,0,0,0,0,17210,6.6,1...
1      4523371949,0,12,1,0,5,5,5,0,0,0,0,14712,6.6,16...
2      4521474530,0,15,0,0,7,11,4,1,1,0,0,16113,6.4,1...
3      4524384067,0,43,1,0,4,5,5,1,0,1,0,15157,7.0,17...
4      4436033771,0,75,4,0,6,6,6,0,0,0,0,16400,7.0,18...
...
9874   4527873286,1,17,2,1,7,4,5,1,1,0,0,17765,7.2,18...
```

```
9875 4527797466,1,54,0,0,6,4,8,1,1,0,0,16238,7.2,19...
9876 4527713716,0,23,1,0,6,7,5,0,0,0,0,15903,7.0,18...
9877 4527628313,0,14,4,1,2,3,3,1,1,0,0,14459,6.6,17...
9878 4523772935,1,18,0,1,6,6,5,0,0,0,0,16266,7.0,17...
```

```
[9879 rows x 1 columns]>
```

```
L0L.T.tail(9877)
```

```
0      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4519157822,0,28,2,1,9,6,11,0,0,0,0,17210,6.6,1...
```

```
1      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4523371949,0,12,1,0,5,5,5,0,0,0,0,14712,6.6,16...
```

```
2      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4521474530,0,15,0,0,7,11,4,1,1,0,0,16113,6.4,1...
```

```
3      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4524384067,0,43,1,0,4,5,5,1,0,1,0,15157,7.0,17...
```

```
4      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4436033771,0,75,4,0,6,6,6,0,0,0,0,16400,7.0,18...
```

```
5      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4475365709,1,18,0,0,5,3,6,1,1,0,0,15899,7.0,18...
```

```
6      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4493010632,1,18,3,1,7,6,7,1,1,0,0,16874,6.8,16...
```

```
7      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4496759358,0,16,2,0,5,13,3,0,0,0,0,15305,6.4,1...
```

```
8      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4443048030,0,16,3,0,7,7,8,0,0,0,0,16401,7.2,18...
```

```
9      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4509433346,1,13,1,1,4,5,5,1,1,0,0,15057,6.8,16...
```

```
gameId,blueWins,blueWardsPlaced,blueWardsDestro...  ... \
```

```
9869 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527875317,0,12,1,0,9,12,12,1,1,0,0,16198,7.0,...
```

```
9870 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527811425,1,46,2,1,5,3,2,0,0,0,0,16923,7.2,19...
```

```
9871 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527715781,0,12,2,0,4,5,5,2,1,1,0,15131,6.8,18...
```

```
9872 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527650398,1,12,0,1,7,7,9,0,0,0,0,17155,7.0,18...
```

```
9873 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527878058,1,18,2,1,12,6,13,0,0,0,0,18573,7.2,...
```

```
9874 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527873286,1,17,2,1,7,4,5,1,1,0,0,17765,7.2,18...
```

```
9875  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527797466,1,54,0,0,6,4,8,1,1,0,0,16238,7.2,19...
```

```
9876  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527713716,0,23,1,0,6,7,5,0,0,0,0,15903,7.0,18...
```

```
9877  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527628313,0,14,4,1,2,3,3,1,1,0,0,14459,6.6,17...
```

```
9878
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4523772935,1,18,0,1,6,6,5,0,0,0,0,16266,7.0,17...
```

```
[1 rows x 9879 columns]
```

```
L0L.T.head(15)
```

```
0      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4519157822,0,28,2,1,9,6,11,0,0,0,0,17210,6.6,1...
```

```
1      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4523371949,0,12,1,0,5,5,5,0,0,0,0,14712,6.6,16...
```

```
2      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4521474530,0,15,0,0,7,11,4,1,1,0,0,16113,6.4,1...
```

```
3      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4524384067,0,43,1,0,4,5,5,1,0,1,0,15157,7.0,17...
```

```
4      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4436033771,0,75,4,0,6,6,6,0,0,0,0,16400,7.0,18...
```

```
5      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4475365709,1,18,0,0,5,3,6,1,1,0,0,15899,7.0,18...
```

```
6      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4493010632,1,18,3,1,7,6,7,1,1,0,0,16874,6.8,16...
```

```
7 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4496759358,0,16,2,0,5,13,3,0,0,0,0,15305,6.4,1...
```

```
8 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4443048030,0,16,3,0,7,7,8,0,0,0,0,16401,7.2,18...
```

```
9 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4509433346,1,13,1,1,4,5,5,1,1,0,0,15057,6.8,16...
```

```
gameId,blueWins,blueWardsPlaced,blueWardsDestro...  ... \
```

```
9869 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527875317,0,12,1,0,9,12,12,1,1,0,0,16198,7.0,...
```

```
9870 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527811425,1,46,2,1,5,3,2,0,0,0,0,16923,7.2,19...
```

```
9871 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527715781,0,12,2,0,4,5,5,2,1,1,0,15131,6.8,18...
```

```
9872 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527650398,1,12,0,1,7,7,9,0,0,0,0,17155,7.0,18...
```

```
9873  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527878058,1,18,2,1,12,6,13,0,0,0,0,18573,7.2,...
```

```
9874  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527873286,1,17,2,1,7,4,5,1,1,0,0,17765,7.2,18...
```

```
9875  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527797466,1,54,0,0,6,4,8,1,1,0,0,16238,7.2,19...
```

```
9876  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527713716,0,23,1,0,6,7,5,0,0,0,0,15903,7.0,18...
```

```
9877  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527628313,0,14,4,1,2,3,3,1,1,0,0,14459,6.6,17...
```

```
9878
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4523772935,1,18,0,1,6,6,5,0,0,0,0,16266,7.0,17...
```

```
[1 rows x 9879 columns]
```

```
LOL.T.tail(12
)
```

```
0      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4519157822,0,28,2,1,9,6,11,0,0,0,0,17210,6.6,1...
```

```
1      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4523371949,0,12,1,0,5,5,5,0,0,0,0,14712,6.6,16...
```

```
2      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4521474530,0,15,0,0,7,11,4,1,1,0,0,16113,6.4,1...
```



```
3      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4524384067,0,43,1,0,4,5,5,1,0,1,0,15157,7.0,17...
```

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4      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4436033771,0,75,4,0,6,6,6,0,0,0,0,16400,7.0,18...
```

```
5      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4475365709,1,18,0,0,5,3,6,1,1,0,0,15899,7.0,18...
```

```
6      \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4493010632,1,18,3,1,7,6,7,1,1,0,0,16874,6.8,16...
```

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7 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4496759358,0,16,2,0,5,13,3,0,0,0,0,15305,6.4,1...
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```
8 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4443048030,0,16,3,0,7,7,8,0,0,0,0,16401,7.2,18...
```

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9 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4509433346,1,13,1,1,4,5,5,1,1,0,0,15057,6.8,16...
```

```
gameId,blueWins,blueWardsPlaced,blueWardsDestro...    ... \
```

```
9869 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527875317,0,12,1,0,9,12,12,1,1,0,0,16198,7.0,...
```

```
9870 \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527811425,1,46,2,1,5,3,2,0,0,0,0,16923,7.2,19...
```

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9871  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
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9872  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
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9873  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527878058,1,18,2,1,12,6,13,0,0,0,0,18573,7.2,...
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9874  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527873286,1,17,2,1,7,4,5,1,1,0,0,17765,7.2,18...
```

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9875  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527797466,1,54,0,0,6,4,8,1,1,0,0,16238,7.2,19...
```

```
9876  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527713716,0,23,1,0,6,7,5,0,0,0,0,15903,7.0,18...
```

```
9877  \
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4527628313,0,14,4,1,2,3,3,1,1,0,0,14459,6.6,17...
```

```
9878
gameId,blueWins,blueWardsPlaced,blueWardsDestro...
4523772935,1,18,0,1,6,6,5,0,0,0,0,16266,7.0,17...
```

```
[1 rows x 9879 columns]
```

```
Data4 = {'Name': ['Ankit', 'Rishitha', 'karthik', 'Vishnu'], 'Marks':
[78, 67, 98, 56]}
Data5 = pd.DataFrame(Data4, index = ['Rank 2', 'Rank 3', 'Rank 1',
'Rank 4'])

print(Data5)
```

|        | Name     | Marks |
|--------|----------|-------|
| Rank 2 | Ankit    | 78    |
| Rank 3 | Rishitha | 67    |
| Rank 1 | karthik  | 98    |
| Rank 4 | Vishnu   | 56    |