```
import numpy as np
import pandas as pd
```

series

creating a series

```
labels = ['a','b','c']
my_list = [10,20,30]
arr = np.array([10,20,30])
d = {'a':10,'b':30,'c':30}
print(pd.Series(data=my_list))
print(pd.Series(data=my_list,index=labels))
print(pd.Series(my_list,labels))
```

```
0    10
1    20
2    30
dtype: int64
a    10
b    20
c    30
dtype: int64
a    10
b    20
c    30
dtype: int64
```

numpy arrays

```
print(pd.Series(arr))
print(pd.Series(arr,labels))
```

```
0    10
1    20
2    30
dtype: int64
a    10
b    20
c    30
dtype: int64
```

dictionary

```
print(pd.Series(d))
```

```
a    10
b    30
c    30
dtype: int64
```

data in a series

```
print(pd.Series(data=labels))
print(pd.Series([sum,print,len]))
```

```
0    a
1    b
2    c
dtype: object
0      <built-in function sum>
1    <built-in function print>
2      <built-in function len>
dtype: object
```

using index

```
ser1 = pd.Series([1,2,3,4],index = ['USA','Germany','USSR','Japan'])
print(ser1)
ser2 = pd.Series([1,2,3,4],index = ['USA','Germany','Italy','Japan'])
print(ser2)
```

```
USA        1
Germany    2
USSR       3
Japan      4
dtype: int64
USA        1
Germany    2
Italy      3
Japan      4
dtype: int64
```

```
print(ser1['USA'])
```

```
1
```

```
print(ser1+ser2)
print(ser2+ser1)
```

```
Germany    4.0
Italy      NaN
Japan      8.0
USA        2.0
USSR       NaN
dtype: float64
Germany    4.0
Italy      NaN
Japan      8.0
USA        2.0
USSR       NaN
dtype: float64
```