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localhost:8888/notebooks/pandas%20task.ipynb#Excercise-1

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pandas Task

In [4]:
```
import pandas as pd
```

Excercise 1

Create a pandas series containing the top 5 programming languages used in 2021, along with their respective popularity index (in descending order). Then, extract the third item from the series.

In [5]:
```
programming_languages=pd.Series({'python':100,'javascript':95,'java':90,'C++':80,'C#':75})
series1=programming_languages.iloc[2]
series1
```

Out[5]:
```
90
```

Excercise 2

Create a Pandas series with the following data: [1, 2, 3, 4, 5]. Then, calculate the sum, mean, and standard deviation of the series.

In [6]:
```
series2=pd.Series([1,2,3,4,5])
print(series2.sum())
print(series2.mean())
print(series2.std())
```

```
15
3.0
1.5811388300841898
```

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exercise3

In [5]:
```
fruits=pd.Series ({'apples': 3, 'bananas': 2, 'oranges':1 })
fruits
```

Out[5]:
```
apples     3
bananas    2
oranges    1
dtype: int64
```

In [7]:
```
fruits['cherry']=4
fruits
```

Out[7]:
```
apples     3
bananas    2
oranges    1
pears      4
cherry     4
dtype: int64
```

exercise4

In [12]:
```
number=pd.Series([1, 2, 3, 4, 5])
greater=number[number>2]
greater
```

Out[12]:
```
2    3
3    4
4    5
dtype: int64
```

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```
4    5
dtype: int64
```

exercise5

In [13]:
```
series4=pd.Series([1, 3, 5, 7, 9])
series4
```

Out[13]:
```
0    1
1    3
2    5
3    7
4    9
dtype: int64
```

In [14]:
```
series4.index=(['a', 'b', 'c', 'd', 'e'])
series4
```

Out[14]:
```
a    1
b    3
c    5
d    7
e    9
dtype: int64
```

DataFrame

In [15]:
```
data = {
```

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```
dtype: int64
```

DataFrame

In [15]:
```
data = {
    'name': ['John', 'Jane', 'Alex', 'Emily', 'Michael', 'Sara', 'David', 'Emma', 'Olivia', 'James'],
    'age': [25, 35, 42, 28, 31, 40, 37, 26, 33, 29],
    'gender': ['Male', 'Female', 'Male', 'Female', 'Male', 'Female', 'Male', 'Female', 'Female', 'Male']
}
df = pd.DataFrame(data)
df
```

Out[15]:

	name	age	gender
0	John	25	Male
1	Jane	35	Female
2	Alex	42	Male
3	Emily	28	Female
4	Michael	31	Male
5	Sara	40	Female
6	David	37	Male
7	Emma	26	Female
8	Olivia	33	Female
9	James	29	Male

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4	Michael	31	Male
5	Sara	40	Female
6	David	37	Male
7	Emma	26	Female
8	Olivia	33	Female
9	James	29	Male

In [16]:
```
df['occupation'] = ['Programmer', 'Manager', 'Analyst', 'Programmer', 'Analyst',
                    'Manager', 'Analyst', 'Manager', 'Programmer', 'Analyst']
df
```

Out[16]:

	name	age	gender	occupation
0	John	25	Male	Programmer
1	Jane	35	Female	Manager
2	Alex	42	Male	Analyst
3	Emily	28	Female	Programmer
4	Michael	31	Male	Analyst
5	Sara	40	Female	Manager
6	David	37	Male	Analyst
7	Emma	26	Female	Manager
8	Olivia	33	Female	Programmer
9	James	29	Male	Analyst

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In [17]:
```
df[df['age']>=30]
```

Out[17]:

	name	age	gender	occupation
1	Jane	35	Female	Manager
2	Alex	42	Male	Analyst
4	Michael	31	Male	Analyst
5	Sara	40	Female	Manager
6	David	37	Male	Analyst
8	Olivia	33	Female	Programmer

In [19]:
```
sorted_df = df.sort_values(by='age', ascending=False)
sorted_df
```

Out[19]:

	name	age	gender	occupation
2	Alex	42	Male	Analyst
5	Sara	40	Female	Manager
6	David	37	Male	Analyst
1	Jane	35	Female	Manager
8	Olivia	33	Female	Programmer
4	Michael	31	Male	Analyst
9	James	29	Male	Analyst
3	Emily	28	Female	Programmer
7	Emma	26	Female	Manager

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