jupyter EntriTaskPandas Last Checkpoint: 01/14/2023 (unsaved changes) Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)

Run Code

In [113]:
```
import pandas as pd
import numpy as pd
```

In [80]:
```
#Exercise 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.

# Create a dictionary with programming languages and their popularity index
data = {'Language': ['Python', 'JavaScript', 'Java', 'C#', 'PHP'],
        'Popularity Index': [1, 2, 3, 4, 5]}

# Create a Pandas DataFrame from the dictionary
df = pd.DataFrame(data)

# Sort the DataFrame by Popularity Index in descending order
df_sort = df.sort_values(by='Popularity Index', ascending=False)
df_sort
```

Out[80]:

	Language	Popularity Index
4	PHP	5
3	C#	4
2	Java	3
1	JavaScript	2
0	Python	1

In [89]:
```
# Create a Pandas Series from the sorted DataFrame
programming_languages = df_sort.set_index('Popularity Index')['Language']
programming_languages
```

Out[89]:
```
Popularity Index
5           PHP
4            C#
3          Java
2    JavaScript
1        Python
Name: Language, dtype: object
```

In [90]:
```
# Extract the third item from the Series (index 2, since indexing starts from 0)
programming_languages.iloc[2]
```

Out[90]:
```
'Java'
```

In [91]:
```
# Extract 'Java' along with 'Popularity Index' from the Series
third_item = df_sort.loc[df_sort['Language'] == 'Java']
third_item
```

Out[91]:

	Language	Popularity Index
2	Java	3

In [ ]:

jupyter EntriTaskPandas Last Checkpoint: 01/14/2023 (unsaved changes)

Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)

Run Code

In [122]:
```
import pandas as pd
```

In [145]:
```
#Exercise 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.

data = pd.Series([1, 2, 3, 4, 5])
data
```

Out[145]:
```
0    1
1    2
2    3
3    4
4    5
dtype: int64
```

In [130]:
```
# Calculate the sum
SUM = data.sum()

# Calculate the mean (average)
Mean = data.mean()

# Calculate the standard deviation
Standard_Deviation = data.std()
```

In [140]:
```
f"Sum of data is {SUM}"
```

Out[140]:
```
'Sum of data is 15'
```

In [141]:
```
f"Mean of data is {Mean}"
```

Out[141]:
```
'Mean of data is 3.0'
```

In [142]:
```
f"Standard Deviation of data is {Standard_Deviation}"
```

Out[142]:
```
'Standard Deviation of data is 1.5811388300841898'
```

In [ ]:

jupyter EntriTaskPandas Last Checkpoint: 01/14/2023 (autosaved)

Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)

Run Code

In [122]:
```
import pandas as pd
```

In [171]:
```
#Exercise 3:Create a Pandas series with the following data: {'apples': 3, 'bananas': 2, 'oranges': 1}. Then,
#add a new item to the series with the key 'pears' and the value 4

# Create a Pandas Series
data = pd.Series({'apples': 3, 'bananas': 2, 'oranges': 1})
data
```

Out[171]:
```
apples     3
bananas    2
oranges    1
dtype: int64
```

In [158]:
```
# Add a new item to the series
data['pears'] = 4

data
```

Out[158]:
```
apples     3
bananas    2
oranges    1
pears      4
dtype: int64
```

In [176]:
```
# Concatenate the new Series with the existing one
new_add = pd.Series({'pears':4})

# Create a new Series with 'pears' as the first item
pd.concat([data,new_add])
data
```

Out[176]:
```
pears      4
apples     3
bananas    2
oranges    1
dtype: int64
```

In [ ]:

jupyter EntriTaskPandas Last Checkpoint: 01/14/2023 (unsaved changes)

Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)

Run Code

In [122]:
```
import pandas as pd
```

In [181]:
```
#Exercise 4:Create a Pandas series with the following data: [1, 2, 3, 4, 5]. Then, filter the series to only
#include values greater than 2.


# Create a Pandas Series
data = pd.Series([1,2,3,4,5])
data
```

Out[181]:
```
0    1
1    2
2    3
3    4
4    5
dtype: int64
```

In [202]:
```
# Filter the series to include only values greater than 2
filter_data = data[data >2]
filter_data
```

Out[202]:
```
2    3
3    4
4    5
dtype: int64
```

In [ ]:

jupyter EntriTaskPandas Last Checkpoint: 01/14/2023 (autosaved)

Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)

Run Code

In [122]:
```
import pandas as pd
```

In [203]:
```
#Exercise 5:Create a Pandas series with the following data: [1, 3, 5, 7, 9]. Then, change the index to ['a', 'b','c', 'd', 'e'].


# Create a Pandas Series
data = pd.Series([1, 3, 5, 7, 9])
data
```

Out[203]:
```
0    1
1    3
2    5
3    7
4    9
dtype: int64
```

In [210]:
```
data.index = list(['a', 'b','c', 'd', 'e'])
data
```

Out[210]:
```
a    1
b    3
c    5
d    7
e    9
dtype: int64
```

In [ ]: