Exercise1

September 3, 2021

1 ECE 2195 - Exercise 1

A)

1. Create a dictionary of score of each team with keys:values as follows

Team1: 4,

Team2: 3,

Team3: 5,

Team4: 2

2. Add to the dictionary 'Team5' who has a score '5'
3. PRINT all the keys of the dictionary using the keys() method
4. Find the length of VALUES in the dictionary and print it
5. Get the average score of the teams and print it

[3]:
```
scores = {
    'Team1': 4,
    'Team2': 3,
    'Team3': 5,
    'Team4': 2
}

scores['Team5'] = 5

print(scores.keys())
print(len(scores.values()))
print(sum(scores.values()) / len(scores.values()) )
```

```
dict_keys(['Team1', 'Team2', 'Team3', 'Team4', 'Team5'])
5
3.8
```

B)

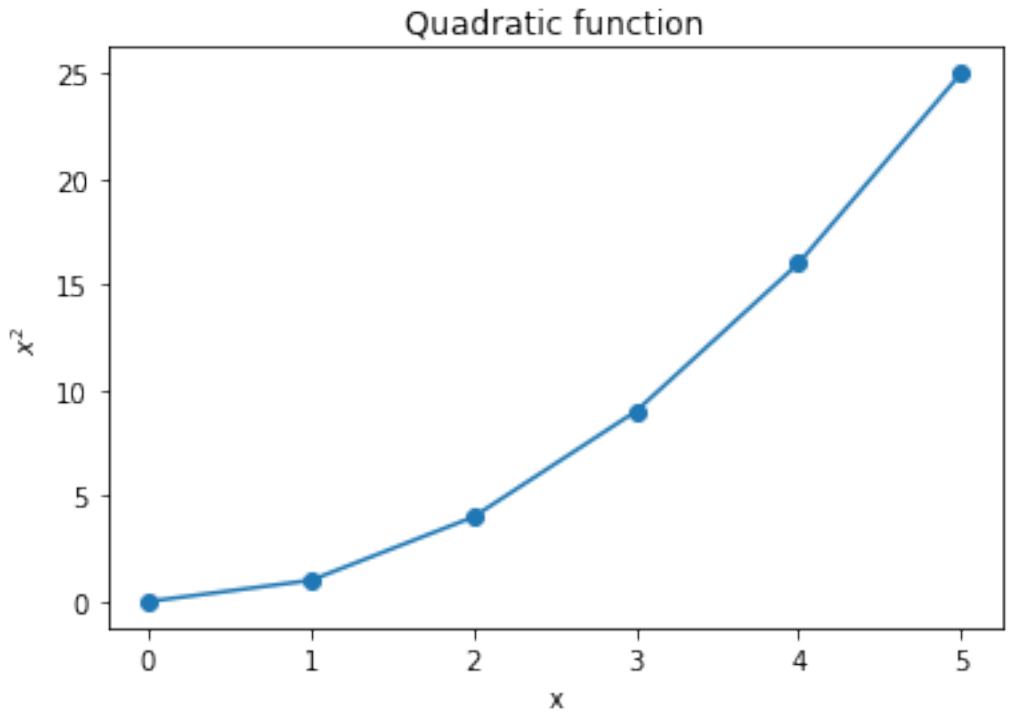
1. Generate a numpy array with 2 columns, where first column contains numbers from 0 to 5 and second column is [0, 1, 4, 9, 16, 25]

2. Check the shape of your array. It should be 6x2.
3. Put the array into a data frame, with column labels ‘x’ and ‘y’
4. Plot ‘x’ (on x-axis) versus ‘y’ (on y-axis)
5. Get average of elements in second column of the data frame

[5]:
```
%matplotlib inline
import matplotlib.pyplot as plt
import pandas as pd
import numpy as np
```

[16]:
```
arr = np.array( [ [0, 0], [1, 1], [2, 4], [3, 9], [4, 16], [5, 25]])
print(arr.shape)

colLabels = ['x', 'y']

df = pd.DataFrame(arr, columns=colLabels)

plt.plot(df.x, df.y, marker='o')
plt.xlabel('x')
plt.ylabel('$x^2$')
plt.title('Quadratic function')
plt.show()

print(df.y.mean())
```

```
(6, 2)
```




```
9.166666666666666
```