Matplotlib

Assignment Questions

PW SKILLS

Q1: What is Matplotlib? Why is it used? Name five plots that can be plotted using the Pyplot module of Matplotlib.

Q2: What is a scatter plot? Use the following code to generate data for x and y. Using this generated data plot a scatter plot.

```
import numpy as np

np.random.seed(3)

x = 3 + np.random.normal(0, 2, 50)

y = 3 + np.random.normal(0, 2, len(x))
```

Note: Also add title, xlabel, and ylabel to the plot.

Q3: Why is the subplot() function used? Draw four line plots using the subplot() function.

Use the following data:

```
import numpy as np
```

For line 1: x = np.array([0, 1, 2, 3, 4, 5]) and y = np.array([0, 100, 200, 300, 400, 500])

For line 2: x = np.array([0, 1, 2, 3, 4, 5]) and y = np.array([50, 20, 40, 20, 60, 70])

For line 3: x = np.array([0, 1, 2, 3, 4, 5]) and y = np.array([10, 20, 30, 40, 50, 60])

For line 4: x = np.array([0, 1, 2, 3, 4, 5]) and y = np.array([200, 350, 250, 550, 450, 150])

Q4: What is a bar plot? Why is it used? Using the following data plot a bar plot and a horizontal bar plot.

```
import numpy as np

company = np.array(["Apple", "Microsoft", "Google", "AMD"])

profit = np.array([3000, 8000, 1000, 10000])
```

Q5: What is a box plot? Why is it used? Using the following data plot a box plot.

```
box1 = np.random.normal(100, 10, 200)

box2 = np.random.normal(90, 20, 200)
```

Note: *Create your assignment in Jupyter notebook and upload it in GitHub & share that github repository link through your dashboard. Make sure the repository is public.*