Assignment-3

1. Create a file f1.txt with the following text given below. Now create two files even.txt and odd.txt and copy line numbers that are even to even.txt and that are odd to odd.txt

Content of f1.txt

```
import numpy as np
import matplotlib.pyplot as plt
# data to plot
n_groups = 4
means_frank = (90, 55, 40, 65)
means_guido = (85, 62, 54, 20)
# create plot
fig, ax = plt.subplots()
index = np.arange(n_groups)
bar_width = 0.25
opacity = 0.8
```

2. Use the same file f1.txt as in Question 1. Create two files vowels.txt and cons.txt. Copy lines to vowels.txt if the first character of the line is a vowel. Copy to cons.txt if the first character of the line is a consonant.

3. Use the same files cons.txt and vowels.txt as in question 2. Read the contents from cons.txt and append the contents to vowels.txt

4. Create a file expr.txt with the text as given below. Your code should evaluate the expressions as arithmetic expressions and output the result to terminal.

Content of expr.txt

```
2.3+9-3
4+5+6/2*4
2-9-4*5
```

5. Create three files f1.txt, f2.txt, and file.txt. Write a class FileHandling with three methods: writeFile(file1,file2), appendFile(file1, file2), and readFile(file1), where readFile reads the contents of the file and outputs to the terminal, writeFile reads the contents of file1 and overwrites the file2, and appends reads the contents of file1 and appends to file2.

6. Create a horizontal as well as vertical bar chart based on the following information:

```
student = ["Jeff", "Peter", "John", "Mary”] // Name of the students
practice = [60, 75, 55 ,80]  // Practice test scores of the students
test = [70, 90, 55, 95] // Actual test scores of the students
```

7. Create a pie chart using the following data: Display the percentage also.

```
genre = ["Comedy", "Action", "Romance", "Drama", "SciFi"]
data = [5, 8, 2, 3, 10]
```