**Python Assignment 2**

1. Explain the datatype List and its inbuilt methods.
2. Explain the datatype tuple and its inbuilt methods.
3. Explain the datatype set and its inbuilt methods.
4. Explain the datatype dictionary and its inbuilt methods.
5. Differentiate the following with reference to mutable-immutable objects:
   1. List and tuple
   2. Set and frozen set
6. Explain the use of range function using an example.
7. Explain nested if-else constructs giving a suitable example.
8. Explain the looping structures of python.
9. Explain break continue and pass statements of python.

Programs:

1. Write a function that takes a list of numbers as input from user and produces the corresponding cumulative list where each element at index i is the sum of elements at index j <= i. For example, Input List = [3, 5, 2, 7, 9, 4]; the Output List = [3, 8, 10, 17, 26, 30].
2. Write a Python program that takes a sentence as input from the user and computes the frequency of each letter. Use a variable of dictionary type to maintain the count.
3. Write a function that takes a number as an input argument and returns the corresponding text in words, for example, if input is 368, the function should return ‘Three’, ‘Six’, ‘Eight’. Use a dictionary for mapping digits to their string representation.
4. Perform the following task using dictionary for the campus drive of a company which required 75 minimum CGPI criteria for appearing in the interview:

a) Create the dictionary for department of CSE, Automobile, Mechanical, Civil and Electrical with name as key and their current CGPI with values.

b) Combine all the department detail into one common dictionary and named it as ITM.

c) Display the total number of students of university who are eligible for the drive.

d) Display the total number of students of university who are not eligible for the drive.