Introduction to Computers (IDC101)
Academic Session 2018-19

Lab Session - 02   August 20-24, 2018

1. The function range(a, m, d) creates a list consisting of an arithmetic progression whose first term is a, the common difference is d and the last term is the largest number $< m$ which is part of this arithmetic progression. Try range(a, m, d). Use is to compare the frequency of prime numbers of the type $4n + 1$ and $4n + 3$, upto, say, $m = 1000, m = 5000, m = 10000$. Vary m and make observations. Try range() with only one or two parameters. What is the output?

2. Store the first line of your favourite poem in a string type variable called poem. Try the following methods on poem : .count(), .lower(), .upper(), .find(), .rfind(), .startswith(), .endswith(), .split(). Now you are ready for the following task.

   (a) Count the number of words in poem.

   (b) Count the number of vowels in poem.

   (c) Print poem in reverse 'character by character'.

   (d) Print poem in reverse 'word by word'.

   (e) Store poem.split() in a list called poemwords. Try methods .append() and .insert() on poemwords.

   (f) Try del(poemwords[2:5]).

   (g) Try max(poemwords) and min(poemwords) .

3. (*Do it only after finishing 2.*) Sort words of your poem in ascending order of English dictionary.

4. Ask user to input names of n students of your class and their roll numbers. Store names in a list named ms18 and roll numbers in a list named rno such that rno[i] is the roll number of student named ms18[i], for each i. Write a program to sort the list ms18 in ascending order of English dictionary. Now print these names and roll numbers so that each line has one name and the roll number corresponding to that name.