Winter Workshop on Data Science and Machine Learning
26th - 30th December, 2017

Task Sheet

Python:

1. Take an arithmetic expression as input and solve it.
   eg. python arithSolver.py 6+5*4/5

2. Take a bunch of strings as input and output them in alphabetical order.
   eg. python strSorter.py igit igdtuw india

3. Take three numbers as input and find largest among them.
   eg. python findLarge.py 45 87 12

4. Take two strings as input and find whether second string is present in first string.
   eg. python findPattern.py igdtuw gd

5. Use iterative method to find factorial of a given input number.

6. Use recursive method to find factorial of a given number.

7. Write program to illustrate user defined module and its usage.

8. Read an input file containing names, roll numbers and marks of 10 students. Each student's details are present in single line separated by comma. After reading the contents from file, store in a list of dictionary objects variable.

9. Read the variable created above, randomly change marks of students and store them in a file such that each student's details is in one single line.

10. Write a program that creates a divide by zero exception.

Facebook:

1. Create an app as a developer to obtain appID, write a Python program using this appID and collect your own feed information and your friends. Exhaustively grant all permissions to this app and then collect as much information as possible for yourself.

2. Continue with the above app, then request one of your friend to grant permissions and figure out what all information about that friend this app can collect ?

3. Create a simple login page in HTML/PHP/SQL, then modify this page to provide an option to end user to login using Facebook Login. Expose the user to a permission dialog and save user's information in SQL based on the permissions granted by the user.

Twitter:

1. Write a python program that takes a username or user handle (eg. SrBachchan) as input and collects all tweets posted by that user.

2. * Construct a graph taking tweets as nodes and edges as similarity between tweet content. Consider all tweets belonging to a trending topic on twitter at time t and location l.