

## 6B17CSC LAB V: WEB TECHNOLOGY & PYTHON PROGRAMMING

### PYTHON PROGRAMMING

#### Sample Program List

1. Write a python program that reads the marks of n students in a particular subject and display
  - a) Number of students passed in the subject
  - b) Number of students failed in the subject
  - c) Average marks obtained by the students in that subject
  - d) Highest mark obtained by a student in the subject.
2. Write a menu driven program to Perform the following operations on the Phonebook
  - a) Add a new contact to the Phonebook
  - b) Delete a contact
  - c) Modify existing contact
  - d) Search for a contact number
  - e) Display all contactsImplement Phonebook as a dictionary with names as keys and phone numbers as values
3. Write a program to generate first n perfect squares.
4. Write a program to perform binary search recursively on a list of integers.
5. Define a function to check whether a number is Armstrong number or not
6. Define a function to generate first n terms of the Fibonacci series.
7. Create a module with the following functions
  - a) my\_sum(n) – returns sum of first n natural numbers
  - b) my\_fact(n) – returns factorial of a number n
  - c) my\_ap(a,d) – Displays AP series with starting value a and common difference d
  - d) my\_gp(a,r) – Displays GP series with starting value a and common ratio r
8. Write a program which reads the contents of a file and copy the contents to another file after changing all lowercase letters to uppercase. Exceptions should be handled.
9. Define a function to find whether a password is strong or not. A password is strong if it satisfies the following criteria:
  - Contains at least one letter between a and z
  - Contains at least one number between 0 and 9
  - Contains at least one letter between A and Z
  - Contains at least one special character.
  - Do not contain white spaces
  - Minimum length of password: 6

10. Create a class Rectangle with methods to initialize length and breadth and to compute and area and perimeter. Derive a class square from rectangle. Calculate area and perimeter of the square.
11. Create a class account with data members, customer name, account type and account number. Derive a class sb\_account to make it more specific. Include member functions to perform the following
  - a) Accept deposit from customer and update balance
  - b) Permit withdrawal and update balance
  - c) Compute and deposit interest
  - d) Display account details
12. Write a python program to perform the following
  - a. Create table students with fields name, sex, rollno, marks
  - b. Insert some rows into the table
  - c. Update the marks of all students by adding 2 marks
  - d. Delete a student with a given rollno
  - e. Display the details of a student with a given rollno
13. Create a simple Login window using Tkinter
14. Plot the mathematical functions  $x$ ,  $x^2$ ,  $x^3$ . The title of the plot and the axes should be labelled.