2023

COMPUTER SCIENCE — HONOURS — PRACTICAL

Paper : CC-12P

(OOPS Lab Using Java)

Full Marks : 30

Marks Distribution

Source Code	: 15
Output	: 05
Sessional	: 04
Viva-voce	: 06

SET-2

Answer ***any one*** question.

1. Create a super class 'Person' and one subclass 'Student'. Write a Java program to do the following :

   (a) For 'Person' instance variables :

   Name : String, address : String. Initiate variable through constructor, incorporate one method setperson( ) that updates Person variables, another method tostring( ) that shows Person details as

   Person [name = ?, address = ?].

   (b) For 'Student' sub class instance variables :

   Program : String, year : String, fees : Double. Initiate both 'Student' and 'Person' variables through constructor, incorporate one method setStudent( ) that updates both 'Student'and 'Person' data, another method tostring( ) that shows 'Person-Student' details as

   "Person [name = ?, address = ?, program = ?, year = ? fees = ?]".

2. Write a Java program to find whether a region in the current string matches with a separate region in another string.

   Sample output :

   Str1 [0-7] = = str2 [28-35]? true

   Str1 [9-15] = = str2 [9-15]? false.

3. Write a Java method to count all lines, words and characters of a file.

4. There is a class called Mypoint, which models a 2D point with X and Y co-ordinates. It contains :
   (a) Two instance variables x (int), y (int).
   (b) A default constructor that construct a point at the default location (0, 0).
   (c) An overloaded constructor that construct a point with the given x and y co-ordinates.
   (d) A method getData( ) to take values of x and y from user.
   (e) A method called linesegment (Mypoint m, Mypoint n) that finds out the gradient of the line segment and returns it from the function.

   Write the Mypoint class in Java and also write a class Gradient-check to test all the public methods defined in the class Mypoint.

5. Write a Java program to create and display a singly linked list. Also write a method to reverse the list.

6. *Write a Java program* to delete all consonants from an input string and print the resultant string.

7. Write a Java program to create a class student with following operations :
   (a) Create parameterized constructor to initialize the objects.
   (b) Create a function isEqual( ) to check whether the two objects are equal or not which returns the Boolean value and gets two objects.
   (c) Print the result in main method if objects are equal or not (take variables as your assumption).