CSL 203 Object Oriented Programming Lab(in JAVA) - Program List

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JAVA & GEANY Installation on Windows

MySQL Server Installation on Windows

SQL Basic Commands Help

Cycle 1

1. Write a java program to print HelloWorld.
2. Write a java program to add two integer numbers.
3. Write a java program to find the largest of two numbers. (using If-else)
4. Write a java program to find the sum of first n natural numbers. (using for loop)
5. Write a java program to check whether a given number is prime or not. (using flag variable)
6. Write a java program to check whether a given number is perfect or not.
7. Write a java program to find the sum of the digits of a given number. (using while or do-while loop)
8. Write a java program to find the reverse of a number.
9. Write a java program to check whether a given number is palindrome or not.
10. Write a java program to read and display Student details.
11. Write a java program to check whether a given year is a leap year or not.
12. Write a java program to find the roots of a quadratic equation(including imaginary roots).
13. Write a java program to implement a basic calculator(using a switch case).
14. Write a java program to check whether a given number is Armstrong no or not(3-digit Armstrong no).
15. Write a java program to find the factorial of a number.
16. Write a java program to print the Fibonacci series.
17. Write a java program to find the factorial of a number using command-line arguments.

Cycle 2

18. Write a java program to implement linear search(using a 1D array)

19. Write a java program to find the largest of n numbers
20. Write a java program to implement Bubble sort.
21. Write a java program to find the second largest and second smallest number in an array
22. Write a java program to implement Binary Search.
23. Write a java program to add two matrices (using a 2D array)
24. Write a java program to find the transpose of a matrix.
25. Write a java program to multiply two matrices
26. Write a java program to sort an array using the sort method in Arrays Class (use for-each to print the array).
27. Write a java program to print the reverse of a string using the reverse method in StringBuilder/StringBuffer Class(use for-each to print the reverse)
28. Write a java program to check whether a given string is palindrome or not (using charAt method in String class).
29. Write a java program to sort a given set of strings. (use sort method and for-each construct)
30. Write a java program to find the factorial of a number using recursion.
31. Write a java program to find the sum of the digits of a number using recursion.

Cycle 3

32. Create a class Box with instance variables length, width, and height. Include a method volume to compute the volume of the box. Create another class BoxDemo with the main function that creates an object of class Box named mybox1 and set the values for instance variables(length, width, and height). Invoke the function volume in Box to compute the volume of the created object mybox1.
33. Write a Java program to implement Stack using arrays.
34. Design a class to represent a bank account. Include the following members: Data Members: Name of the depositor Account Number Type of Account Balance amount in the account Methods : To deposit an amount To withdraw an amount after checking the balance To display the name and balance Incorporate default and parameterized constructor to provide initial values
35. Write a Java program that creates a class named 'Employee' having the following members: Name, Age, Phone number, Address, Salary. It also has a method named 'printSalary( )' which prints the salary of the Employee. Two classes 'Officer' and 'Manager' inherit the 'Employee' class. The 'Officer' and 'Manager' classes have data members 'specialization' and 'department' respectively. Now, assign a name, age, phone number, address, and salary to an officer and a manager by making an object of both of these classes and print the same.
36. Write two Java classes, Employee and Engineer. The engineer should inherit from Employee class. Employee class to have two methods display() and calcSalary(). Write a program to display the engineer salary and to display from Employee class using a single object instantiation (i.e., only one object creation is allowed).
    - display() only prints the name of the class and does not return any value. Ex. “ Name of class is Employee.”
    - calcSalary() in Employee displays “Salary of employee is 10000” and calcSalary() in Engineer displays“Salary of employee is 20000.”
37. Write a java program to create an abstract class named Shape that contains an empty method named numberOfSides( ). Provide three classes named Rectangle, Triangle, and Hexagon such that each one of the classes extends the class Shape. Each one of the classes contains only the method numberOfSides( ) that shows the number of sides in the given geometrical structures.

38. Create a package ‘studpack’ which incorporates Student class and Sports interface. Create a Result class that extends Student class and implements a sports interface to display the total marks. The details of the classes and interfaces described below. Use appropriate access specifier as per the requirement. (*method, -variable) Create a java program Hybrid.java that imports Result class from studpack and display the total for 5 students.
39. Write a Java program that shows the usage of try, catch, and finally
40. Write a Java program to find the factorial of a number using BufferedReader Class
41. Write a Java program to copy the contents of one file to another file using FileReader/FileWriter Class.
42. Write a Java program that reads a line of integers, and then displays each integer, and the sum of all the integers (Use StringTokenizer class of java.util)
43. Write a Java program to copy the contents of one file to another file using FileInputStream and FileOutputStream classes.
44. Create a Java package named ‘NewPackage’ which consist of a class called ‘NewClass’. ‘NewClass’ hava a method ‘parityCheck’ which check whether a given number is odd or even and return a string as a result. Import this package in another class and call the method ‘parityCheck’.

Cycle 4

45. Write a java program to implement Stack using Collections Framework
46. Write a java program to implement Queue using Collections Framework (list elements using iterator interface)
47. Write a java program to implement ArrayList using Collections Framework
48. Write a java program that creates multiple child threads to print odd and even numbers.(extending Thread class)
49. Write a Java program that implements a multi-threaded program which has three threads. First thread generates a random integer every 1 second. If the value is even, second thread computes the square of the number and prints. If the value is odd the third thread will print the value of cube of the number. (implements Runnable Interface and Random Class)
50. Write a Java program for the following: i) Create a doubly linked list of elements. ii) Delete a given element from the above list. iii) Display the contents of the list after deletion.(using Colections Framework- LinkedList Interface)
51. Write a Java GUI program to add two numbers. (Using Swing package)
52. Write a Java GUI program to find the factorial of a number.
53. Write a Java GUI program to check whether a given string is palindrome or not. (Use StringBuilder class).
54. Write a Java GUI program to implement a basic calculator.
55. Implement a Registration Form in Java.
56. Execute basic SQL Commands.
57. Write a Java program to insert, delete and display all records from a table using JDBC.
