Lab List

1. **Write Java program to print “Hello World”**
2. **Write a program in Java to read a number and tests if it is even or odd**
3. **Write a program that finds the largest element in an array**
4. **Write a program in java that finds second largest element in an array**
5. **Given three numbers, write a Java program to read three numbers from keyword and print out the largest of them.**
6. **Write a Java program reads a character and check if it is alphabet or not**
7. **Write a program that checks if the array is sorted or not**
8. **Write a Java program to read two integer values m and n and to decide whether m is a multiple of n.**
9. **Write a Java program that will obtain the length and width of a rectangle from the user and compute its area and perimeter.**
10. **Write a Java program that reads radius of circle and finds area and circumference.**
11. Write a Java program that reads two numbers and swap them.
12. Write a Java program that reads P,T, and R and find simple interest and amount.
13. Write a Java program that sorts a given array.
14. Write a Java program that finds factorial of a positive number using recursive method
15. Write a Java program that finds nth Fibonacci number using recursive method
16. Write a Java program that find product of two numbers using recursive method
17. Write a Java program that find x to the power y using recursive method
18. Write Java program to print prime numbers from 300 to 500 using method
19. Write a Java program to find the largest number among four different numbers using conditional operator
20. Write a java program that swaps two elements in an array
21. Write a java program that prints elements of an array using for each type of loop.
22. A non-empty array A of length n is called on array of all possibilities if it contains all numbers between 0 and A.length-1 inclusive. Write a method named is All Possibilities that accepts an integer array and returns 1 if the array is an array of all possiblities, otherwise it returns 0.
23. Write a Java program that finds sum of two and three numbers using concept of method overloading
24. Write a Java program that finds areas of different geometric shapes using concept **of** method overloading.
25. Create a class Number with three int instance variable x , y and z. The class will have one constructor. The class also will contain member function getMax () that will return the largest number. Create a main method that will create an object of Number and will print the largest number.
26. Write a Java program to add two complex numbers
27. Write a Java program to add two Time(hr,min,sec) objects
28. Create a class Swapper class with two integer instance variable x and y and constructor with two parameters that initializes the two variables. Also include three member functions: A getX () that returns x, a getY () function that returns y, a void swap () method that swaps the values of x and y. Then define a main() method to create an object of Swapper class and swap the value of instance variables
29. Create a class **Date** with three integer instance variables named day, month, year. It has a constructor with three parameters for initializing the instance variables, and it has one-member function named daySinceJan1 (). It computes and returns the number of days since January 1 of the same year, including January 1 and the day in the Date object. For example, if day is a Date object with day = 1, month = 3 and year = 2000, then the call date.daySinceJan1() should return 61 since there are 61 days between the dates of January 1, 2000, and March 1, 2000, including January 1 and March 1. Then define main () method to handle Date class. Don’t forget leap years.
30. Create a USMoney class with two integer instance variables dollars and cents. Add a constructor with two parameters for initializing a USMoney object. The constructor should check that the cent value is between 0 and 99 and, if not, transfer some cents to the dollars variables to make it between 0 and 99. For example, if x is a USMoney object with 5 dollars and 80 cents, and if y is a USMoney object with 1 dollar and 90 cents, then x.plus (y) will return a new USMoney object with 7 dollars and 70 cents. Also, create a main () method that creates to objects of USMoney class and add them.
31. Create a Person class with private instance variables for person’s name and birth date. Add appropriate functions for these variables. Then create a subclass CollegeGraduate with private instance variables for the student’s GPA and year of graduation and appropriate functions for these variables. Don’t forget to include appropriate constructor constructors for your classes. Then define main () method that demonstrates your classes.
32. Create a class Box with fields width, height and depth. Add methods getArea () and getVolume (). Use suitable constructors. From main () method create an object of Box class and find its area as volume.
33. Create a class Room with instance variables length and breadth. Add one function getArea () that returns the area of the room. Create a subclass MyRoom and add one instance variable height. Add one function getVolume () that returns the volume. Then define main () method that creates two MyRoom objects and find area and volumes of both rooms.
34. Create a class Box with instance variables length, breadth and height. Add one method getVolume () to compute the volume of box. Use suitable constructors. Create a subclass BoxWeight that extends Box that add one variable weight. Add one function getWeight () that displays the weight of box to this class. Add suitable constructors. Create one more subclass class Shipment that extends BoxWeight. Add one function getCost () that displays the cost of the box. Add suitable constructors. Then define main () method that creates an object of Shipment that initializes the instance variables through constructor.
35. Create an abstract class Figure with two instance variables dim1 and dim2. Add suitable constructors. Add one abstract function called getArea (). Create two subclass called Rectangle and Triangle. Add function getArea () to both of the classes that will find the area of respective figures. Then define main () method that creates an object of each classes and find the area of triangle and rectangle.
36. Write a Java program to demonstrate divide by zero exception.
37. Write a Java program to demonstrate array index bounds exception
38. Write a Java Program to demonstrate null exception
39. Write a Java program to demonstrate multiple catch statements
40. Write a Java program to demonstrate custom exception
41. Write a Java program to concatenate two strings
42. Write a Java program to compare two strings
43. Write a Java program to compare some portion of two Strings
44. Write a Java program that replaces some characters in Strings
45. Write a Java program to reads contents of a file using character stream
46. Write a Java program to write some lines of text to file using character stream
47. Write a Java program that reads contents of same file using character stream
48. Write a Java program that writes line of text to file using byte stream
49. Write a Java program that reads contents of file using byte stream
50. Write a Java program to write objects to file
51. Write a Java program to read objects from file
52. Write a Java program to demonstrate random access process
53. Write a Java program to print 10 random numbers between 1 to 100
54. Write a Java program that creates a class called Stack and then implements push() and pop() operations
55. Create an interface Exam with methods setExam(String division, int mark) and showExam(), create a class named test that implements the interface Exam and then display the records.
56. Write a Java program to create a class Mobile (type, phone\_no). Customize the exception such that if the user give phone\_no having less than or greater than 10 digit, then the program has to throw an exception with message “Invalid Phone Number”
57. Create a class named Movie (id, genre). Write the object of Movie class into file named “Comedy.dat” having comedy as genre
58. Write a program to create a class student with data member roll and name. sort the 10 objects of this class on the basis of name.
59. Create a class named Book with instance variables tile and price. Add a method named setVar to pass parameters for title and price. Add another method named showVar to display values of these variables. Now in main(), declare 4 objects of book and display the records of book that starts with “Java”.
60. Create a Shape interface having methods area() and perimeter(). Create two subclasses, Circle and Rectangle that implements the Shape interface. Create a class Sample with main method and demonstrate the area and perimeters of both the Shape classes. You need to handle the values of length, breadth and radius in respective classes to calculate their area and perimeter.
61. Write a Java program to show use of Wrapper classes.
62. Write a Java program to illustrate inner class
63. Write a Java program that shows the use of generic class
64. Write a Java program to show generic method
65. Create a class Student with private member variables name and percentage. Write methods to set, display and return values of private variables in the Student class. Create 10 different objects of the student class, set the values, ad display name of Student who have highest average\_marks in the main method of another class named StudentDemo
66. Write a program to illustrate the concept of ArrayIndexOutOfBoundsException
67. Write a Java program to read data file form the file “text.txt” and write the data file into the file “best.txt”
68. Write a Java program writes line of text to existing file. Also read the content of this file and write down on monitor
69. Write a Java program reads N names of students and then sort them in ascending order.
70. Write a Simple GUI program that displays “hello World” in a text field. The program should display if user clicks a button.
71. Write GUI program using Swing components to find sum and difference of two numbers. Use two text fields for giving input and a label for output. The program should display sum if user presses mouse and difference if user release mouse.
72. You are hired by a reputed software company which is going to design an application for “Movie Rental System”. Your responsibility is to design a schema named MRS and create a table named Movie(id, Title, Genre, Language, Length). Write a program to design a GUI to take input for this table and insert the data into table after clicking OK button