

Java Teamwork - List of Programs :

7/Aug

Q1) Create a class Student with the following members :

Data Members :

1) Roll.-No. \rightarrow int

2) Name \rightarrow String

Member Functions :

1) Show() \rightarrow to display the information.

Create another class Test having main() method to test the functionality of your Student class.

14/Aug

Q2) Create a class Student with the following members :

Data Members :

1) Roll.-No. \rightarrow int

2) Name \rightarrow String

Member Functions :

1) Show() \rightarrow to display the information.
Student class should also have a parameterized constructor.

Create another class Test having main() method to test the functionality of your Student class.

21/Aug

Q3) Write a java program to calculate the sum of 2 integers. The numbers should be inserted through command prompt.

21/Aug

Q4) Write a java program to calculate the factorial of a number. The number should be inserted through command prompt.

28/Aug

Q5) Write a java program to calculate the length of a string without using length method. (String should be entered through command prompt).

28/Aug

Q6) Calculate the area of the following shapes :

- Triangle
- Rectangle
- Circle.

4/Sep

Q7) Write a java program to create a class Electricity and calculate the bill based on the following conditions :

- 1) If unit is less than 100,
then bill = $1.20 * \text{unit}$.
- 2) If unit is less than 200,
then bill = $(100 * 1.20) + (\text{unit} - 100 * 2)$
- 3) If unit is less than 300,
then bill = $(100 * 1.20) + (\text{unit} - 100 * 2) + (\text{unit} - 200 * 3)$

Instance variables :

- 1) unit \rightarrow int
- 2) bill \rightarrow double

Methods :

- 1) Bill-generate () \rightarrow double

2) Show-bill() or Display-bill()

4/Sep

Q.8) Write a java program to create a class Account with instance variables:

- 1) Account number
- 2) Name
- 3) Balance

Define four methods :

- 1) Get-data()
- 2) Display()
- 3) Withdraw()
- 4) Deposit()

4/Sep

Q.9) Write a java program to demonstrate Single level Inheritance.

4/Sep

Q.10) Write a java program for method overriding.

11/Sep

Q.11) Write a java program to count the number of objects.

11/Sep

Q.12) Create a class Person with a member variable : Name.

Save it in a file called Person.java. Create a class called Employee that will inherit the Person class. The other data members of the Employee class are:

- 1) Annual Salary → double.
- 2) The year the employee started to work.
- 3) And the National Insurance Number.

Your class should have the necessary constructors.

Create another class called TestEmployee containing the main() method to fully test your class definition.

18/Sep

Q.13) Create an abstract class Shape having following abstract methods:

1.) Abstract void DrawTriangle(int n);

This function will print the following pattern:

```
      *
    * * *
  * * * * *
* * * * * *
```

2.) Abstract void DrawInvertedTriangle(int n);

This function will print the following pattern:

```
* * * * * * *
 * * * * *
  * * *
   *
```

Now create a child class DrawPattern which will provide the definition for its parent class. Create a TestPattern class and test the functionality of your program.

18/Sep

Q.14) Write a program to create an interface Circle-Functions with the final instance variable as PI and radius.

Declare two methods :

- 1) Circumference ()
- 2) Area ()

Now create a class Circle which implements interface Circle-Functions. Now create a Test class and test the functionality of Circle.

18/Sep

Q.15) Create a package PK1. Define the interface I1 inside package PK1. Interface I1 has the following methods:

- 1) int fact (int num);
- 2) boolean palindrome (int num);

Save this file in the current working directory with name I1.java.

Create another package PK2. Import interface I1 from PK1 in package PK2.

Now create a child class A which will implement the interface I1. Save this file in the current working directory.

Now create another package PK3. In this package, define the 'main' class and test the functionality of your program.

25/Sep

Q.16) Write a java program to create an array of 10 elements. Now ask the user to enter 10 elements using Scanner class and calculate the sum

of even elements. If there is not any even element, then print: "There is no even element in the array!".

25/Sep

Q.17) Create an array of 10 elements. Now ask the user to enter 10 elements using Scanner class. Now ask the user to enter element to search in the array. If the required element is found, then print: "The element is found at index.". Otherwise, print: "The element is not found.".

25/Sep

Q.18) Create an array and ask the user to enter the elements in the array using Scanner class. Now ask the user to enter an element to delete from the array. If the required element is found in the array, then after deleting that element, shift the succeeding numbers to the left by one index each. Then print: "The number deleted from array". Else if the required number is not found in the array, print: "The number is not found in array".

26/Sep

Q.19) Ask a user to enter the amount using Scanner class.

1) If the amount is less than 500, then throw "MinAmountException".

- 2) Else if amount is greater than 10000,
then throw "MaxAmountException".
- 3) Else print: "Collect your money!".

29/Sep

Q.20) Write a java program to calculate
the sum of each row of 2D Array
(Jagged Array).

29/Sep

Q.21) Write a java program to calculate
the sum of each column of 2D Array
(Jagged Array).