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|  | Import java.util.\*;  import java.lang.Math; |
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|  |  |
|  | //1. Create a class Student with 2 data members rollno and name. Create one method setData() |
|  | // that takes roll number and student name as parameter and stores them in data members |
|  | // rollno and name. Create one more method showData() to print the data member values. |
|  | // Create another class ( main class) StudentDemo that creates Student class object and |
|  | // calls setData() and showData() methods. |
|  |  |
|  | class Student |
|  | { |
|  | int rollno; |
|  | String name; |
|  |  |
|  | void setData(int rollno, String name) |
|  | { |
|  | this.rollno=rollno; |
|  | this.name=name; |
|  | } |
|  |  |
|  | void showData() |
|  | { |
|  | System.out.println("ID: "+rollno); |
|  | System.out.println("Name: "+name); |
|  | } |
|  | } |
|  |  |
|  | class Assignment5 |
|  | { |
|  | public static void main(String [] args) |
|  | { |
|  | Student obj=new Student(); |
|  | obj.setData(12345,"Sumit"); |
|  | obj.showData(); |
|  | } |
|  | } |
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|  | //Q2. Create a class Circle that has two data members, one to store the radius and |
|  | // another to store area and three methods first init() method to input radius |
|  | // from user, second calculateArea() method to calculate area of circle and third |
|  | // display() method to display values of radius and area. Create class CircleDemo |
|  | // (main class) that creates the Circle object and calls init(), calculateArea() and display() methods. |
|  |  |
|  | class Circle |
|  | { |
|  | int radius; |
|  | float area; |
|  |  |
|  | void init() |
|  | { |
|  | Scanner sc=new Scanner(System.in); |
|  | System.out.println("Enter Radius: "); |
|  | radius=sc.nextInt(); |
|  | } |
|  |  |
|  | void calculateArea() |
|  | { |
|  | area=(float)(22/7.0f)\*(radius\*radius); |
|  | } |
|  |  |
|  | void display() |
|  | { |
|  | System.out.println("Area: "+area); |
|  | } |
|  | } |
|  |  |
|  | class Assignment5 |
|  | { |
|  | public static void main(String [] args) |
|  | { |
|  | Circle obj=new Circle(); |
|  | obj.init(); |
|  | obj.calculateArea(); |
|  | obj.display(); |
|  | } |
|  | } |
|  |  |
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|  | //3. Create a class MathOperation that has four static methods. add() method that takes |
|  | // two integer numbers as parameter and returns the sum of the numbers. subtract() method |
|  | // that takes two integer numbers as parameter and returns the difference of the numbers. |
|  | // multiply() method that takes two integer numbers as parameter and returns the product. |
|  | // power() method that takes two integer numbers as parameter and returns the power of first |
|  | // number to second number. Create another class Demo (main class) that takes the two numbers |
|  | // from the user and calls all four methods of MathOperation class by providing entered numbers |
|  | // and prints the return values of every method. |
|  |  |
|  | class MathOperation |
|  | { |
|  | static int add(int a, int b) |
|  | { |
|  | return a+b; |
|  | } |
|  |  |
|  | static int subtract(int a, int b) |
|  | { |
|  | if(b>a) |
|  | return b-a; |
|  | Else |
|  | return a-b; |
|  | } |
|  |  |
|  | static int multiply(int a, int b) |
|  | { |
|  | return a\*b; |
|  | } |
|  |  |
|  | static double power(int a, int b) |
|  | { |
|  | return Math.pow(a,b); |
|  |  |
|  | } |
|  | } |
|  |  |
|  | class Assignment5 |
|  | { |
|  | public static void main(String [] args) |
|  | { |
|  | Scanner sc=new Scanner(System.in); |
|  | System.out.println("a: "); |
|  | int a=sc.nextInt(); |
|  | System.out.println("b: "); |
|  | int b=sc.nextInt(); |
|  |  |
|  | System.out.println(MathOperation.add(a,b)); |
|  | System.out.println(MathOperation.subtract(a,b)); |
|  | System.out.println(MathOperation.multiply(a,b)); |
|  | System.out.println(MathOperation.power(a,b)); |
|  | } |
|  | } |
|  |  |
|  |  |
|  |  |
|  | //4. Create a class MathOperation containing overloaded methods ‘multiply’ to calculate |
|  | // multiplication of following arguments. |
|  | // a. two integers |
|  | // b. three floats |
|  | // c. all elements of array |
|  | // d. one double and one integer |
|  |  |
|  | class MathOperation |
|  | { |
|  | int multiply(int a, int b) |
|  | { |
|  | return a\*b; |
|  | } |
|  |  |
|  | double multiply(float a, float b, float c) |
|  | { |
|  | return a\*b\*c; |
|  | } |
|  |  |
|  | double multiply(int arr[]) |
|  | { |
|  | double pro=0; |
|  | for(int i=0;i<arr.length;i++) |
|  | { |
|  | pro=pro+arr[i]; |
|  | } |
|  | return pro; |
|  | } |
|  |  |
|  | double multiply(double a, int b) |
|  | { |
|  | return a\*b; |
|  | } |
|  | } |
|  |  |
|  | class Assignment5 |
|  | { |
|  | public static void main(String [] args) |
|  | { |
|  | Scanner sc=new Scanner(System.in); |
|  | System.out.print("Int a: "); |
|  | int a=sc.nextInt(); |
|  | System.out.print("Int b: "); |
|  | int b=sc.nextInt(); |
|  |  |
|  | System.out.print("Float c: "); |
|  | float c=sc.nextFloat(); |
|  | System.out.print("Float d: "); |
|  | float d=sc.nextFloat(); |
|  | System.out.print("Float e: "); |
|  | float e=sc.nextFloat(); |
|  |  |
|  | System.out.print("Enter Array Length: "); |
|  | int x=sc.nextInt(); |
|  | int arr[]=new int[x]; |
|  | for(int i=0;i<x;i++) |
|  | { |
|  | System.out.print("a[i+1]: "); |
|  | arr[i]=sc.nextInt(); |
|  | } |
|  |  |
|  | System.out.print("Double f: "); |
|  | double f=sc.nextDouble(); |
|  | System.out.print("Int g: "); |
|  | int g=sc.nextInt(); |
|  |  |
|  | MathOperation obj=new MathOperation(); |
|  |  |
|  | System.out.println("\nDouble a\*b: "+obj.multiply(a,b)); |
|  | System.out.println("Double c\*d: "+obj.multiply(c,d,e)); |
|  | System.out.println("Double e\*f: "+obj.multiply(arr)); |
|  | System.out.println("Double g\*h: "+obj.multiply(a,b)); |
|  | } |
|  | } |

Top of Form

Bottom of Form