```
//Student's Full name: Tasfique Enam
//Student's ID: 5886429
//Task1

package labtask5;
import java.util.Scanner;



public class Task1 {


    public static void main(String[] args) {
        int lookup =1; //initialising lookup
        int[] random = new int[20]; //creating array to store 20 random integers
        Scanner read = new Scanner(System.in);
        System.out.println("The 20 randomly generated numbers are. ");
        for (int i = 0; i<random.length; i++){  //generating 20 random numbers in
arrays.
            random[i]=(int)(Math.random()*100);
            System.out.println(random[i]);
        }
        while (lookup!=0) //while loop to show if the user inputs a number.
        {
            System.out.println("Search for a number ");
            lookup = read.nextInt();
            if(LookupValue(lookup,random)==true)
            {
                System.out.println("The number has been found");
            }
```

```
            else
            {
               System.out.println("The number you are looking for was not found ");
            }
            System.out.print("Do you want to search again? '-1' to quit, or 1 to
continue. ");
            int input = read.nextInt();
            if (input == -1) {
                break;
               }
        }


    }
    public static boolean LookupValue(int lookup, int[] array)
    {
        int[] random=new int[20];
        for (int j=0; j<random.length; j++)
        {
            if (lookup == array[j])
            {
               return true;
            }
        }
        return false;
    }


}
```

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//Student's Full name: Tasfique Enam
//Student's ID: 5886429
//Task2

package labtask5;
import java.util.Scanner;

public class Task2
{
   public static void main(String[]args){
      int quantity; //declaring variables.
      double price, discount, total;

      Scanner read = new Scanner (System.in);

         Task2 object = new Task2(); //creating a new object.

         System.out.println("Enter the Price :");
         price = read.nextDouble();

         System.out.println("Enter the quantity : ");
         quantity = read.nextInt();

         System.out.println("Enter the amount the discount received in
percentage. ");
         discount = read.nextDouble();
```

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        total = object.TotalCalculation((int) price, quantity, discount);

        object.displaySum(total);
    }
    public double TotalCalculation(int quantity, double discount, double price) //
    {

       return (price*quantity)*(1-(discount/100));
    }
    public void displaySum(double sum) //displaying the result
    {
       sum = (sum*10)/10;
       sum = Math.round(sum);

       System.out.println("\nThe total price is:" + " " + (sum));

    }

}
```

```
//Student's Full name: Tasfique Enam
//Student's ID: 5886429
//Task3

package labtask5;
import java.util.Scanner;

public class Task3 {

    public static double getLength(){ //method for length
        Scanner read = new Scanner(System.in);
        System.out.println("Enter the length of the rectangle ");
        double length = read.nextDouble();
        return length;
    }

    public static double getBreadth(){ //method for breadth
         Scanner read = new Scanner(System.in);
         System.out.println("Enter the breadth of the rectangle ");
         double breadth = read.nextDouble();
         return breadth;
    }

    public static double getArea(double length, double breadth){ //method for
area
        double area = length * breadth;
        return area;
    }
```

```
    public static double getPerimeter (double length , double breadth ){ //method for perimeter
        double perimter = length + breadth;
       return perimter;
    }

    public static void display(double length, double breadth, double area, double perimeter){ //method to display results.
        System.out.println(" The length of a rectangle is \t" + length);
        System.out.println(" The width of a rectangle is \t" + breadth);
        System.out.println(" The area of a rectangle is \t" + area);
        System.out.println("The perimeter of a rectangle is \t"  + perimeter);
    }

    public static void main(String[]args){ // main method
        double length, breadth, area, perimeter;

        length = getLength();
        breadth = getBreadth();
        area = getArea(length, breadth);
        perimeter = getPerimeter(length, breadth);

        display(length, breadth, area, perimeter);


    }
}
```