JCDM COLLEGE OF ENGINEERING, SIRSA

PRACTICAL FILE
ON
Java Programming Lab.(PC/CSE-46-P)
FOR
B.TECH (4th -SEM)

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PROGRAM-1

Aim:-Program to find largest out of three numbers.

```
public class LargestOfThree
{

   public static void main(String[] args)
    {

        int x = 67;
        int y = 98;
        int z = 56;

        if(x>y)
        {

            System.out.println("x is maximum number.");
        }



        else if(y>z)
        {

            System.out.println("y is maximum number.");
        }



        else
        {

            System.out.println("z is maximum number.");
        }


    }

}
```

OUTPUT


"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrai
y is maximum number.
Process finished with exit code 0

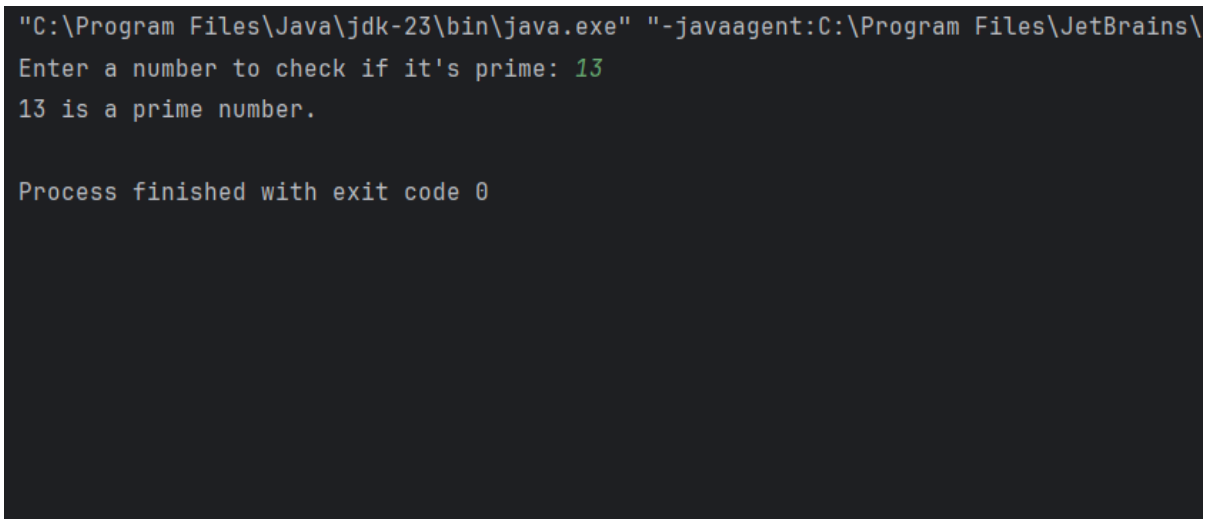
PROGRAM-2

Aim:-Program to check whether a number is prime or not.

```
import java.util.Scanner;

public class PrimeNumber
{


   public static void main(String[] args)
   {


      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter a number to check if it's prime: ");
      int number = scanner.nextInt();

      if (isPrime(number))
      {


         System.out.println(number + " is a prime number.");
      }


else
      {


         System.out.println(number + " is not a prime number.");
      }

      scanner.close();
   }

   public static boolean isPrime(int n)
   {


      if (n <= 1)
      {


         return false;
      }



      for (int i = 2; i <= Math.sqrt(n); i++)
      {
```

```
            if (n % i == 0)
            {

                return false;
            }

        }


        return true;

    }

}
```

OUTPUT

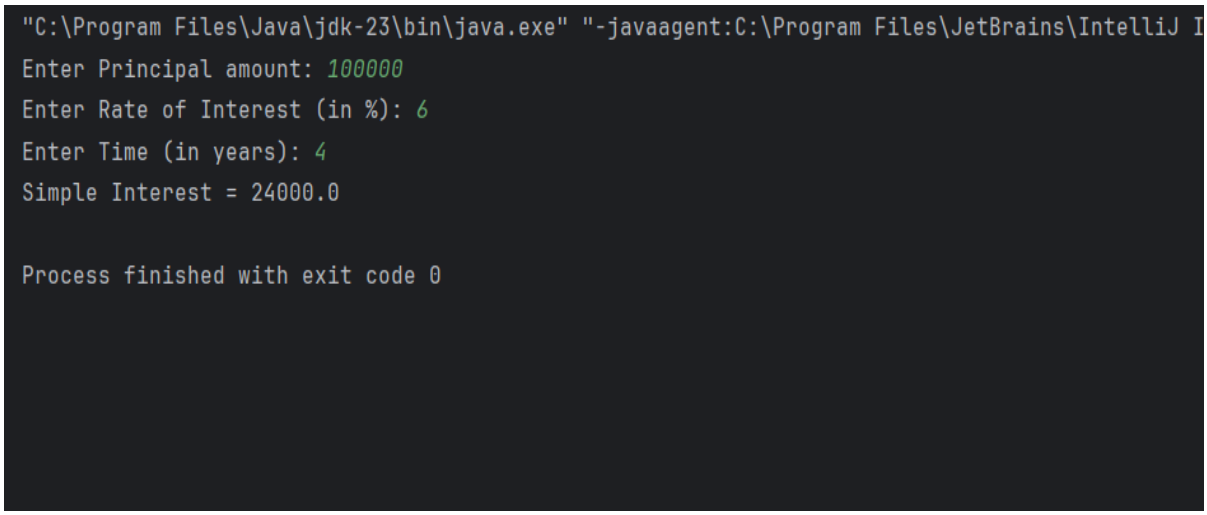

"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\
Enter a number to check if it's prime: 13
13 is a prime number.
Process finished with exit code 0

PROGRAM-3

Aim:-Program to calculate simple interest (inputs taken by user).

```
import java.util.Scanner;

public class SimpleInterest

{

   public static void main(String[] args)
   {


      Scanner scanner = new Scanner(System.in);

      // Input
      System.out.print("Enter Principal amount: ");
      double principal = scanner.nextDouble();

      System.out.print("Enter Rate of Interest (in %): ");
      double rate = scanner.nextDouble();

      System.out.print("Enter Time (in years): ");
      double time = scanner.nextDouble();

      // Calculation
      double simpleInterest = (principal * rate * time) / 100;

      // Output
      System.out.println("Simple Interest = " + simpleInterest);

      scanner.close();


   }


}
```

OUTPUT


"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ I
Enter Principal amount: 100000
Enter Rate of Interest (in %): 6
Enter Time (in years): 4
Simple Interest = 24000.0
Process finished with exit code 0

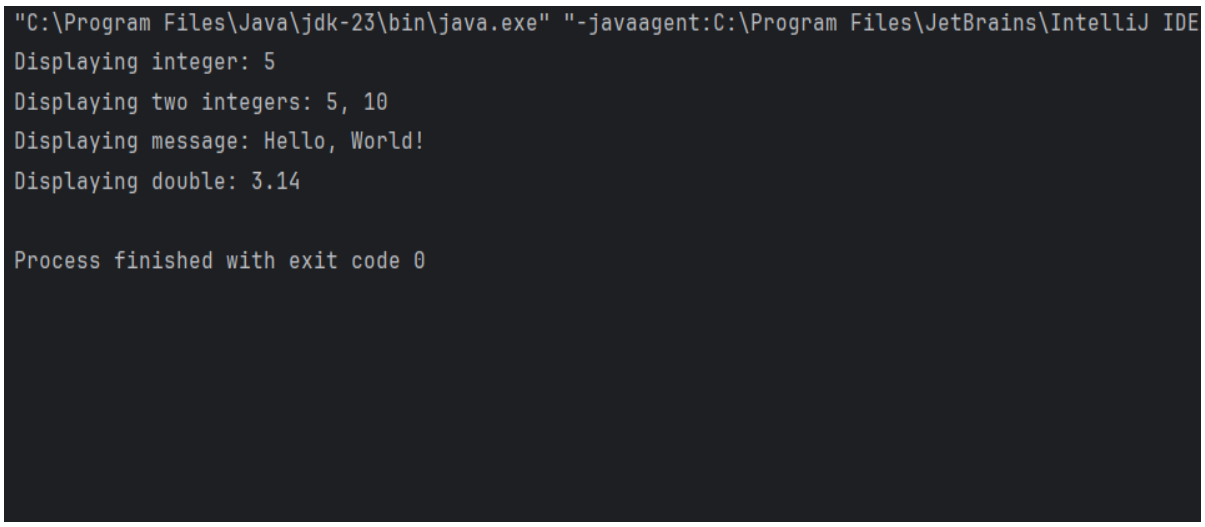
PROGRAM-4

Aim:-Program to implement function overloading.

```
public class FunctionOverloading
{


    // Method with 1 int parameter
    public void display(int a)
    {

        System.out.println("Displaying integer: " + a);

    }

    // Method with 2 int parameters
    public void display(int a, int b)
    {

        System.out.println("Displaying two integers: " + a + ", " + b);

    }

    // Method with 1 String parameter
    public void display(String message)
    {

        System.out.println("Displaying message: " + message);

    }

    // Method with 1 double parameter
    public void display(double d)
    {

        System.out.println("Displaying double: " + d);

    }

    public static void main(String[] args)
    {
```

```
        FunctionOverloading obj = new FunctionOverloading();

        obj.display(5);                 // Calls method with integer
        obj.display(5, 10);             // Calls method with two integers
        obj.display("Hello, World!");   // Calls method with String
        obj.display(3.14);              // Calls method with double


    }

}
```

OUTPUT


"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDE
Displaying integer: 5
Displaying two integers: 5, 10
Displaying message: Hello, World!
Displaying double: 3.14
Process finished with exit code 0

PROGRAM-5

Aim:-Program showing use of constructors in the derived class.

```
// Base class (superclass)
class Animal
{

    String name;

    // Constructor of the superclass
    Animal(String name)
    {

        this.name = name;
        System.out.println("Animal constructor called. Name: " + name);

    }

}

// Derived class (subclass)
class Dog extends Animal
{

    String breed;

    // Constructor of the subclass
    Dog(String name, String breed)
    {

        // Call the superclass constructor
        super(name);
        this.breed = breed;
        System.out.println("Dog constructor called. Breed: " + breed);

    }

    void displayInfo()
    {

        System.out.println("Name: " + name + ", Breed: " + breed);

    }
```

```
}

// Main class
public class ConstructorDemo
{


    public static void main(String[] args)
    {


        Dog myDog = new Dog("Buddy", "Golden Retriever");
        myDog.displayInfo();


 }


}
```

OUTPUT


"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ I
Animal constructor called. Name: Buddy
Dog constructor called. Breed: Golden Retriever
Name: Buddy, Breed: Golden Retriever
Process finished with exit code 0

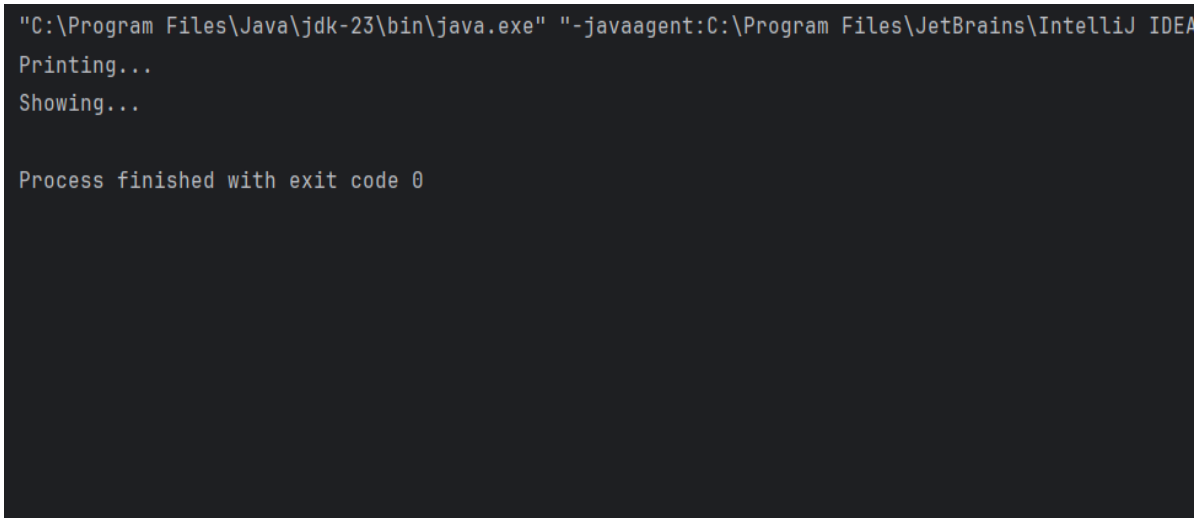
PROGRAM-6

Aim:-Program to implement Multiple Inheritence.

```
// First interface
interface Printable
{

    void print();
}



// Second interface
interface Showable


{

    void show();
}



// A class implementing both interfaces
public class MultipleInheritance implements Printable, Showable
{

    public void print()
    {

        System.out.println("Printing...");
    }



    public void show()
    {

        System.out.println("Showing...");
    }



    public static void main(String[] args)


    {


        MultipleInheritance obj = new MultipleInheritance();
```

```
        obj.print();
        obj.show();
    }


}
```

OUTPUT


"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA
Printing...
Showing...
Process finished with exit code 0

PROGRAM-7

Aim:-Program to use Multiple Catch Statement.

```
import java.util.Scanner;

public class MultipleCatch
{

   public static void main(String[] args)
   {

      Scanner scanner = new Scanner(System.in);

      try
      {

         // Take input for array size
         System.out.print("Enter the size of the array: ");
         int size = scanner.nextInt();
         int[] numbers = new int[size];

         // Populate the array
         System.out.println("Enter " + size + " numbers:");
         for (int i = 0; i < size; i++)
         {

            numbers[i] = scanner.nextInt();
         }


         // Take index and divisor as input
         System.out.print("Enter the index to access: ");
         int index = scanner.nextInt();

         System.out.print("Enter the number to divide with: ");
         int divisor = scanner.nextInt();

         // Perform operation
         int result = numbers[index] / divisor;
         System.out.println("Result: " + result);

      }

      catch (ArithmeticException e)
      {

         System.out.println("Caught ArithmeticException: Cannot divide by zero.");
      }
```

```
        catch (ArrayIndexOutOfBoundsException e)
        {

            System.out.println("Caught ArrayIndexOutOfBoundsException: Index is out of bounds.");
        }

        catch (Exception e)
        {

            System.out.println("Caught Exception: " + e.getMessage());
        }

        finally
        {

            scanner.close();
            System.out.println("Scanner closed.");
        }


        System.out.println("Program continues...");

    }

}
```

OUTPUT

```
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA C
Enter the size of the array: 3
Enter 3 numbers:
10
20
30
Enter the index to access: 5
Enter the number to divide with: 6
Caught ArrayIndexOutOfBoundsException: Index is out of bounds.
Scanner closed.
Program continues...

Process finished with exit code 0
```