	SCTR's PUNE INSTITUTE OF COMPUTER TECHNOLOGY PUNE - 411043		
	Department of Electronics & Telecommunication Engineering (E&TCE)		
	ASSESMENT YEAR: 2024-2025	CLASS: TE 07	BATCH:- N7
	SUBJECT: Advanced JAVA Programming		
	Assignment No: 8	**Roll No: 32402**	**Date: 05/03/2025**

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roblem Statement: With suitable example to develop your remote interface, implement your RMI server, implement application that create your server.

Code :

1. **Create Remote Interface**

```
import java.rmi.*;
public interface PrimeI extends Remote
{
   boolean isPrime(int n) throws RemoteException;
}
```

2. **Implement Remote Interface**

```
import java.rmi.*;
import java.rmi.server.UnicastRemoteObject;

public class PrimeC extends UnicastRemoteObject implements PrimeI
{
   PrimeC() throws RemoteException
   {
      super();
   }
   public boolean isPrime(int n)
   {
      if(n <= 1)
      {
         return false;
      }
      if(n > 1)
      {
         for(int i = 2; i <= Math.sqrt(n); i++)
```

```
        {
            if(n % i == 0)
            {
                return false;
            }
        }
    }
    return true;
  }
}
```

3. Create Server

```
import java.rmi.*;
import java.rmi.registry.*;
public class ServerPrime
{
  public static void main(String[] args) throws Exception
  {
    Registry registry = LocateRegistry.createRegistry(5000);
    PrimeC obj = new PrimeC();
    registry.bind("CHECKPRIME", obj);
    System.out.println("Server started successfully!");
  }
}
```

4. Create Client

```
import java.rmi.*;
import java.util.Scanner;
public class ClientPrime
{
  public static void main(String[] args) throws Exception
  {
    try
    {
      Scanner sc = new Scanner(System.in);
```

```
            PrimeI iobj = (PrimeI) Naming.lookup("rmi://localhost:5000/CHECKPRIME");
            while (true) {
               System.out.println("Enter input to check if it is a prime number : ");
               if (!sc.hasNextInt()) {
                  System.out.println("Invalid input! Please enter a whole number.");
                  sc.next();
                  continue;
               }
               int n = sc.nextInt();
               sc.nextLine();
               if (iobj.isPrime(n)) {
                  System.out.println("It is a prime number.");
               } else
                  System.out.println("It is not a prime number.");
               System.out.println("Do you want to check another input? (Y/N) :");
               String choice = sc.nextLine().trim().toLowerCase();
               if(choice.equals("n"))
               {
                  System.out.println("Exiting program...");
                  break;
               }
            }
         }
         catch (Exception e)
         {
            e.printStackTrace();
         }
      }
   }
```

Output :

Server -

Server started successfully!

Client -

```
Enter input to check if it is a prime number :
15
It is not a prime number.
Do you want to check another input? (Y/N) :
y
Enter input to check if it is a prime number :
13
It is a prime number.
Do you want to check another input? (Y/N) :
y
Enter input to check if it is a prime number :
5.78
Invalid input! Please enter a whole number.
Enter input to check if it is a prime number :
9
It is not a prime number.
Do you want to check another input? (Y/N) :
n
Exiting program...
```