EX 2   **IMPLEMENTATION OF RMI**
20-03-22   **IN TWO DIFFERENT SYSTEMS**

AIM :

To implement Remote Method Invocation(RMI) in two different systems

PROCEDURE:
1. Create 4 files for finding factorial or your application
2. Factorial.java and factorialremote.java contain the core logic for finding factorial.
3. MyClient.java is a file which contains the client machine code, and MyServer.java is a file which contains the server machine code
4. First we should compile all the files and we should run rmiregistry (port number) in the systems
5. Run Myclient in client machine and MyServer in server machine

CODE:
Factorial.java
```
import java.rmi.*;
//Main interface file
public interface Factorial extends Remote{
        public int[] Factorial(int x)throws RemoteException;
}
```

Factorialremote.java
```
import java.rmi.*;
//remote file for factorial service
import java.rmi.server.*;
public class Factorialremote extends UnicastRemoteObject implements
Factorial{
        Factorialremote()throws RemoteException{
                super();
        }
        public int[] Factorial(int x){
                int array[] = new int[1000];
                int i,fact=1;
                int number=x;//to calculate factorial
                for(i=1;i<=number;i++){
                        fact=fact*i;
                }
```

```
                array[0] = fact;
                return (array); //Returning to the function calls
                }
}
```

MyClient.java
```
import java.rmi.*;
//Client file that requests server
import java.util.Scanner;
public class MyClient{
      public static void main(String args[]){
            try{
                  Scanner inp = new Scanner(System.in);
                  Factorial
stub=(Factorial)Naming.lookup("rmi://172.17.17.128:5000/sonoo");
                  System.out.println("Enter the number: ");
                  int x = inp.nextInt();
                  System.out.println("Factorial of the number you entered is:
");
                  int arr[] = stub.Factorial(x); //Function for finding fact!
                  for(int i=0;arr[i]!=0;i++) {
                        System.out.println(arr[i]); //Displaying the value
                  }
            }catch(Exception e){}
      }
}
```

MyServer.java
```
import java.rmi.*;
//Main server file that responds to client
import java.rmi.registry.*;
public class MyServer{
      public static void main(String args[]){
            try{
                  Factorial stub=new Factorialremote();
                  Naming.rebind("rmi://172.17.17.127:5000/sonoo",stub);
            }catch(Exception e){System.out.println(e);}
```
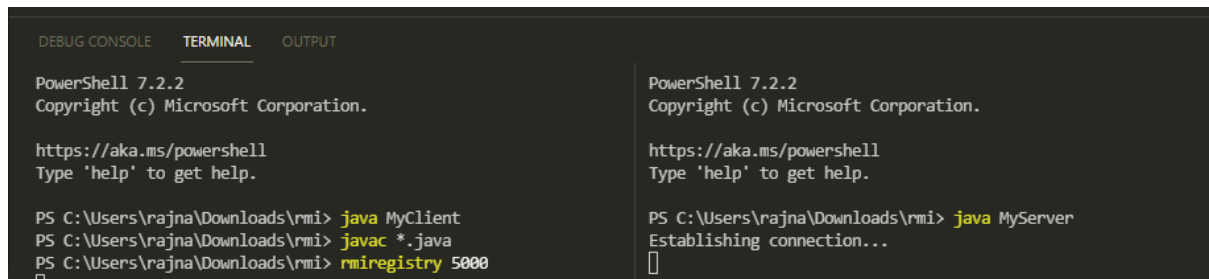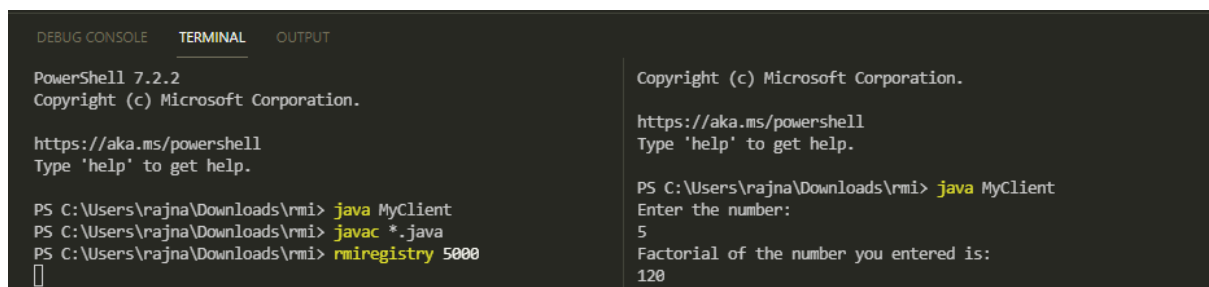
```
System.out.println("Establishing connection...");
    }
}
```

SCREENSHOTS:

MyServer at IP address :172.17.17.128

MyClient at IP address : 172.17.17.127

RESULTS:

Hence RMI is implemented in two different systems successfully