EAST WEST UNIVERSITY

Coures : CSE110 , Object Oriented Programming

Assignment : 10

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Submitted To

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Problem – 1

Code :

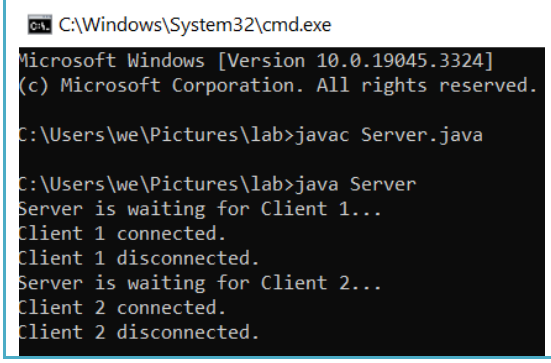
```
import java.io.*;
import java.net.*;

public class Server {
   public static void main(String[] args) {
      try {
         ServerSocket serverSocket = new ServerSocket(12345);
         System.out.println("Server is waiting for Client 1...");


         Socket client1Socket = serverSocket.accept();
         System.out.println("Client 1 connected.");

         BufferedReader client1Reader = new BufferedReader(new
InputStreamReader(client1Socket.getInputStream()));
         char receivedChar = client1Reader.readLine().charAt(0);


         char decrementedChar = (char) (receivedChar - 1);


         client1Socket.close();
         System.out.println("Client 1 disconnected.");

         System.out.println("Server is waiting for Client 2...");
         Socket client2Socket = serverSocket.accept();
         System.out.println("Client 2 connected.");


         PrintWriter client2Writer = new PrintWriter(client2Socket.getOutputStream(), true);
         client2Writer.println(decrementedChar);

         client2Socket.close();
         System.out.println("Client 2 disconnected.");

         serverSocket.close();
      } catch (IOException e) {
         e.printStackTrace();
      }
   }
}
```

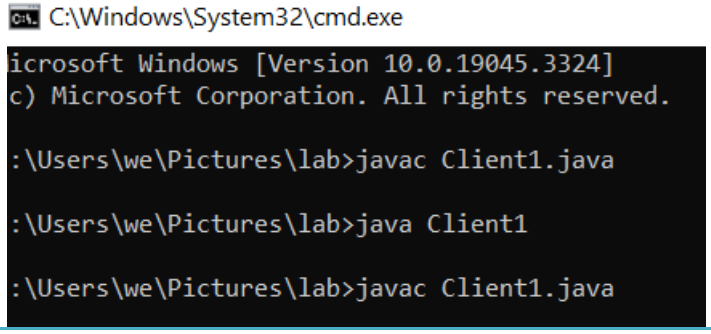
```
import java.io.*;
import java.net.*;

public class Client1 {
```

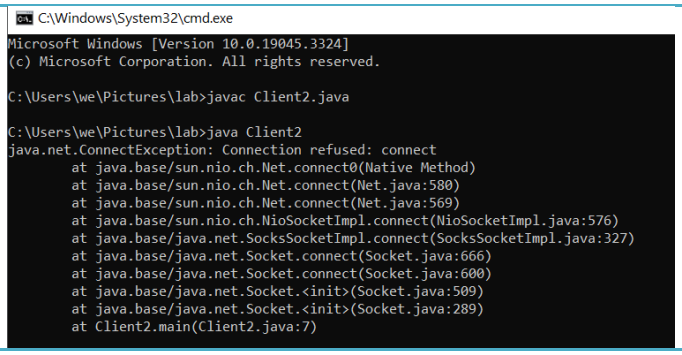
```
    public static void main(String[] args) {
        try {
            Socket client1Socket = new Socket("localhost", 12345);

            PrintWriter writer = new PrintWriter(client1Socket.getOutputStream(), true);
            writer.println("B");

            client1Socket.close();
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}
```

```
import java.io.*;
import java.net.*;

public class Client2 {
    public static void main(String[] args) {
        try {
            Socket client2Socket = new Socket("localhost", 12345);

            BufferedReader reader = new BufferedReader(new
InputStreamReader(client2Socket.getInputStream()));
            String result = reader.readLine();

            System.out.println("Client 2 received: " + result);

            client2Socket.close();
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}
```

OutPut :







Problem – 2

Code :

```
import java.io.*;
import java.net.*;

public class Server {
   public static void main(String[] args) {
      try {
         ServerSocket serverSocket = new ServerSocket(12345);
         System.out.println("Server is waiting for Client 1...");

         Socket client1Socket = serverSocket.accept();
         System.out.println("Client 1 connected.");


         BufferedReader client1Reader = new BufferedReader(new
InputStreamReader(client1Socket.getInputStream()));
         int randomNumber = Integer.parseInt(client1Reader.readLine());


         String result = (randomNumber % 2 == 0) ? "even" : "odd";


         client1Socket.close();
         System.out.println("Client 1 disconnected.");

         System.out.println("Server is waiting for Client 2...");
         Socket client2Socket = serverSocket.accept();
         System.out.println("Client 2 connected.");

         PrintWriter client2Writer = new PrintWriter(client2Socket.getOutputStream(), true);
         client2Writer.println(result);

         client2Socket.close();
```

```
            System.out.println("Client 2 disconnected.");

            serverSocket.close();
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}
```

```
import java.io.*;
import java.net.*;
import java.util.Random;

public class Client1 {
    public static void main(String[] args) {
        try {
            Socket client1Socket = new Socket("localhost", 12345);


            int randomNumber = generateRandomNumber();

            PrintWriter writer = new PrintWriter(client1Socket.getOutputStream(), true);
            writer.println(randomNumber);

            client1Socket.close();
        } catch (IOException e) {
            e.printStackTrace();
        }
    }

    private static int generateRandomNumber() {
        Random rand = new Random();
        return rand.nextInt(100); // Generates a random number between 0 and 99
    }
}
```

```
import java.io.*;
import java.net.*;

public class Client2 {
    public static void main(String[] args) {
        try {
            Socket client2Socket = new Socket("localhost", 12345);

            BufferedReader reader = new BufferedReader(new
InputStreamReader(client2Socket.getInputStream()));
            String result = reader.readLine();

            System.out.println("Client 2 received: The next number is " + result);
```

```
            client2Socket.close();
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}
```

OutPut :