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**Class:MCA-5**

**Roll number:13**

**Subject: Network security**

**Sessional 2 Practical**

**P1.java**

```
import java.net.DatagramSocket;
```

```
import java.net.DatagramPacket;
```

```
import java.net.InetAddress;
```

```
import java.util.Scanner;
```

```
class P1{
```

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

```
        DatagramSocket sender = new DatagramSocket();
```

```
        DatagramPacket packet = null;
```

```
        InetAddress ip = InetAddress.getLocalHost();
```

```

byte[] send_packet = new byte[65536];

Scanner in = new Scanner(System.in);

String message="";

while(!message.equalsIgnoreCase("bye")){

    System.out.print("Enter number:");

    message=in.nextLine();

    if(message.equalsIgnoreCase("bye")){

        System.out.print("Connection ended!");

        break;

    }

    send_packet=message.getBytes();

    packet = new
DatagramPacket(send_packet,send_packet.length,ip,1234);

    sender.send(packet);

    send_packet=new byte[65536];

}

}

```

```
}
```

## P2.java

```
import java.net.DatagramSocket;
```

```
import java.net.DatagramPacket;
```

```
import java.net.InetAddress;
```

```
class P2{
```

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

```
        DatagramSocket forwarder = new DatagramSocket(1234);
```

```
        DatagramPacket packet = null;
```

```
        InetAddress ip = InetAddress.getLocalHost();
```

```
        byte[] receive_packet = new byte[65536];
```

```
        byte[] send_packet = new byte[65536];
```

```
        String message="";
```

```
        while(!message.equalsIgnoreCase("bye")){
```

```
        packet = new
DatagramPacket(receive_packet,receive_packet.length);

        forwarder.receive(packet);

        message=convertToString(receive_packet);

        if(message.equalsIgnoreCase("bye")){

                System.out.print("Connection ended!");

                break;

        }

        System.out.print("\nClient:"+message);

        if((Integer.parseInt(message)) < 1000){

                int number =Integer.parseInt(message);

                message =(number*number)+"";

                send_packet=message.getBytes();

                packet = new
DatagramPacket(send_packet,send_packet.length,ip,2222);

                forwarder.send(packet);

        }
```

```

        else

        {

            System.out.print("\nWarning: Number greater than
1000!");

        }

        receive_packet = new byte[65536];

        send_packet = new byte[65536];

    }

}

public static String convertToString(byte[] a){

    if(a == null)

        return null;

    String s = "";

    int i=0;

    while(a[i] != 0){

        s=s+(char)a[i];

        i++;

```

```
        }  
        return s;  
    }  
}
```

### P3.java

```
import java.net.DatagramSocket;  
  
import java.net.DatagramPacket;  
  
import java.net.InetAddress;  
  
import java.util.Scanner;  
  
class P3{  
  
    public static void main(String[] args) throws Exception{  
  
        DatagramSocket server = new DatagramSocket(2222);  
  
        DatagramPacket packet = null;  
  
        InetAddress ip = InetAddress.getLocalHost();  
  
        byte[] receive_packet = new byte[65536];
```

```

String message="";

while(!message.equalsIgnoreCase("bye")){

    packet = new
DatagramPacket(receive_packet,receive_packet.length);

    server.receive(packet);

    message=convertToString(receive_packet);

    if(message.equalsIgnoreCase("bye")){

        System.out.print("Connection ended!");

        break;

    }

    System.out.print("\nClient:"+message);

    receive_packet = new byte[65536];

}

}

public static String convertToString(byte[] a){

    if(a == null)

        return null;

```

```
String s = "";
```

```
int i=0;
```

```
while(a[i] != 0){
```

```
    s=s+(char)a[i];
```

```
    i++;
```

```
}
```

```
return s;
```

```
}
```

```
}
```



```
Windows PowerShell
PS D:\Semester-5-\Network security> javac P1.java
PS D:\Semester-5-\Network security> java P1
Enter number:2
Enter number:4
Enter number:1000
Enter number:6
Enter number:

```

```
Windows PowerShell
PS D:\Semester-5-\Network security> javac P2.java
PS D:\Semester-5-\Network security> java P2
Client:2
Client:4
Client:1000
warning:Number greater than 1000!
Client:6

```

```
Windows PowerShell
PS D:\Semester-5\Network security> javac P3.java
PS D:\Semester-5\Network security> java P3
Client:4
Client:16
Client:36
```