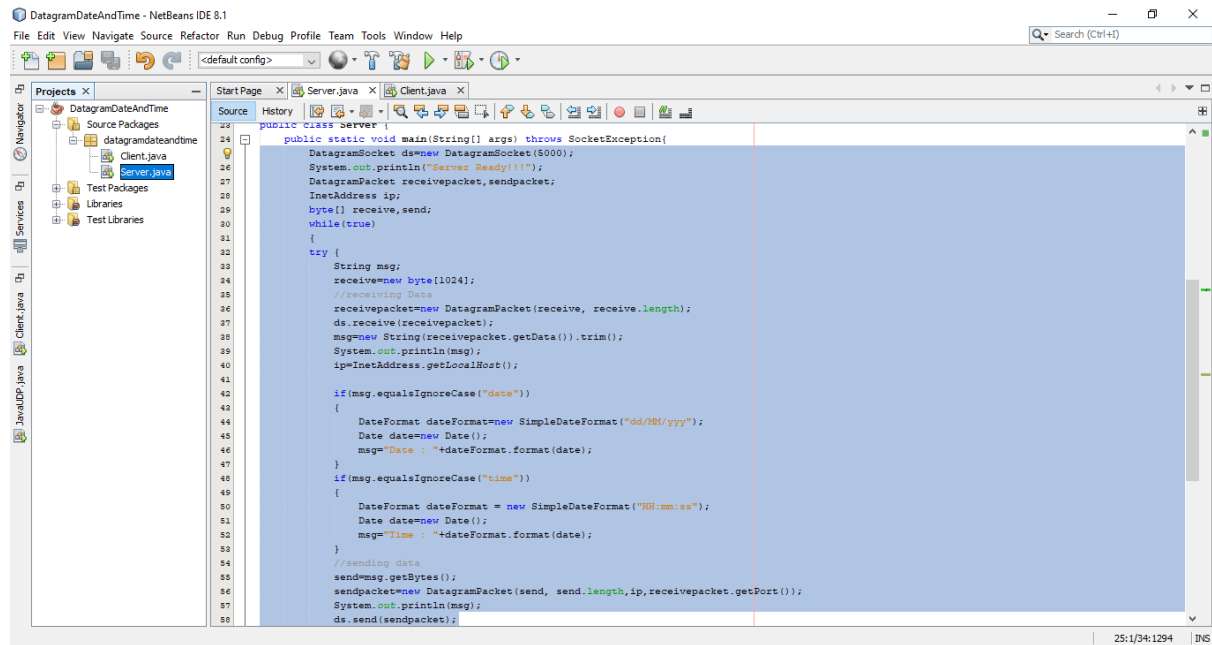


**UNIVERSITY OF MUMBAI Practical Examination – November 2018 M.C.A Semester – V
LABORATORY L502 [Open Source System for ADC Lab]**

Datagram

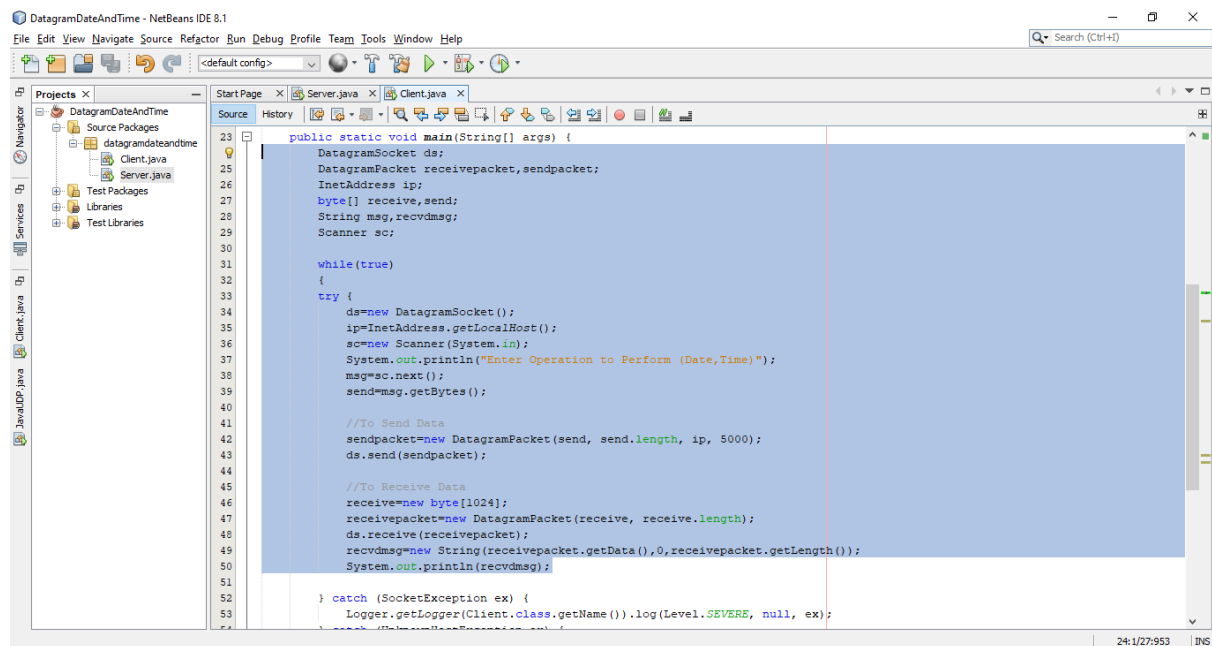
Implement a Date Time Server containing date() and time() with datagram

Server



```
24 public class server {
25     public static void main(String[] args) throws SocketException{
26         DatagramSocket ds=new DatagramSocket(5000);
27         System.out.println("Server Ready!!!");
28         DatagramPacket receivepacket,sendpacket;
29         InetAddress ip;
30         byte[] receive,send;
31         while(true)
32         {
33             try {
34                 String msg;
35                 receive=new byte[1024];
36                 //receiving Data
37                 receivepacket=new DatagramPacket(receive, receive.length);
38                 ds.receive(receivepacket);
39                 msg=new String(receivepacket.getData()).trim();
40                 System.out.println(msg);
41                 ip=InetAddress.getLocalHost();
42                 if(msg.equalsIgnoreCase("date"))
43                 {
44                     DateFormat dateFormat=new SimpleDateFormat("dd/MM/yyyy");
45                     Date date=new Date();
46                     msg="Date : "+dateFormat.format(date);
47                 }
48                 if(msg.equalsIgnoreCase("time"))
49                 {
50                     DateFormat dateFormat = new SimpleDateFormat("HH:mm:ss");
51                     Date date=new Date();
52                     msg="Time : "+dateFormat.format(date);
53                 }
54                 //sending data
55                 send=msg.getBytes();
56                 sendpacket=new DatagramPacket(send, send.length,ip, receivepacket.getPort());
57                 System.out.println(msg);
58                 ds.send(sendpacket);
59             }
60         }
61     }
62 }
```

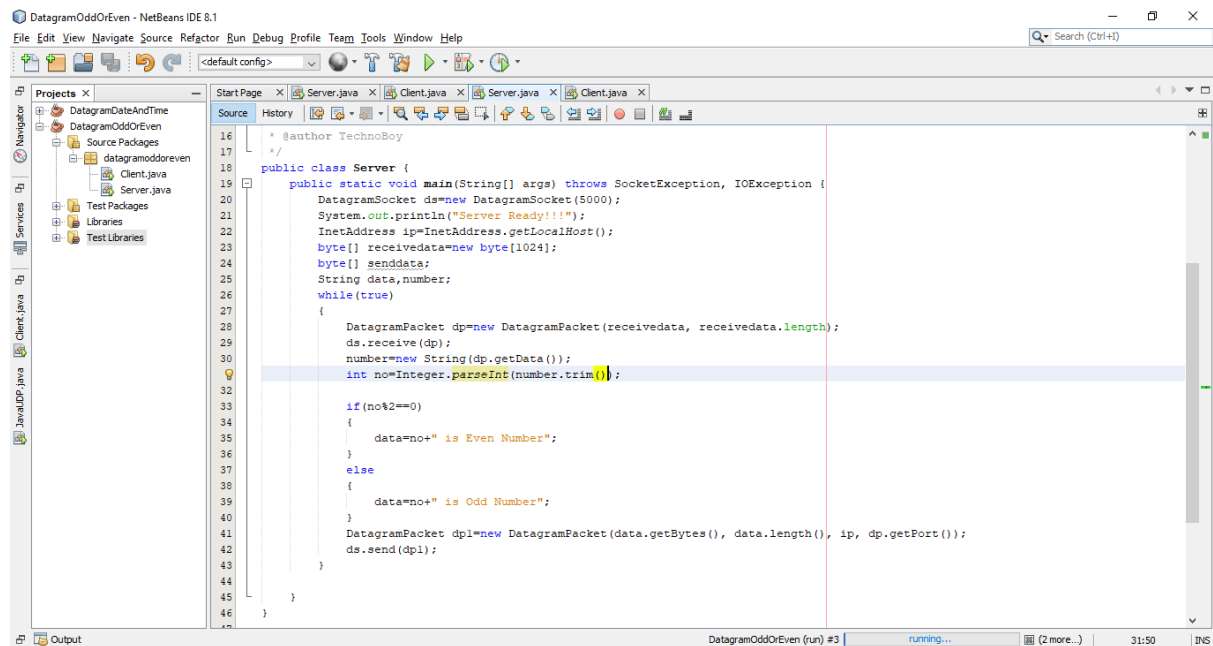
Client



```
23 public static void main(String[] args) {
24     DatagramSocket ds;
25     DatagramPacket receivepacket,sendpacket;
26     InetAddress ip;
27     byte[] receive,send;
28     String msg,recvmsg;
29     Scanner sc;
30
31     while(true)
32     {
33         try {
34             ds=new DatagramSocket();
35             ip=InetAddress.getLocalHost();
36             sc=new Scanner(System.in);
37             System.out.println("Enter Operation to Perform (Date,Time)");
38             msg=sc.next();
39             send=msg.getBytes();
40
41             //To Send Data
42             sendpacket=new DatagramPacket(send, send.length, ip, 5000);
43             ds.send(sendpacket);
44
45             //To Receive Data
46             receive=new byte[1024];
47             receivepacket=new DatagramPacket(receive, receive.length);
48             ds.receive(receivepacket);
49             recvmsg=new String(receivepacket.getData(),0, receivepacket.getLength());
50             System.out.println(recvmsg);
51
52         } catch (SocketException ex) {
53             Logger.getLogger(Client.class.getName()).log(Level.SEVERE, null, ex);
54         }
55     }
56 }
```

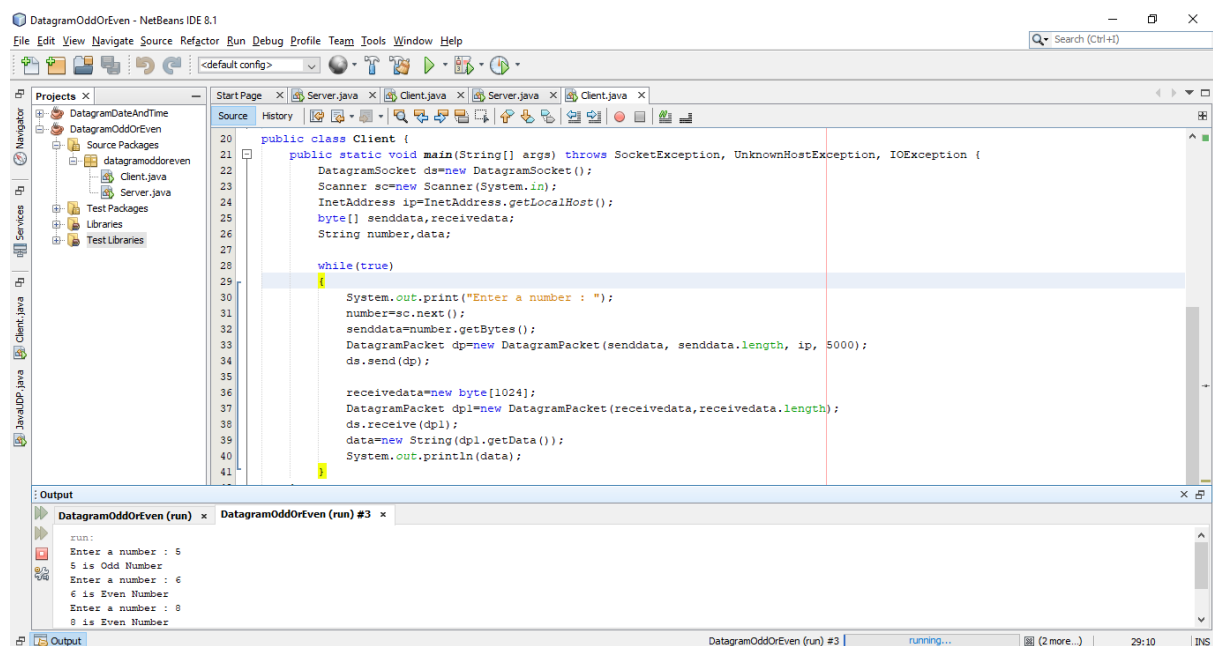
Implement a Server to find whether an entered number is odd or even using Datagram socket

Server



```
16  * @author TechnoBoy
17  */
18  public class Server {
19      public static void main(String[] args) throws SocketException, IOException {
20          DatagramSocket ds=new DatagramSocket(5000);
21          System.out.println("Server Ready!!!");
22          InetAddress ip=InetAddress.getLocalHost();
23          byte[] receivedata=new byte[1024];
24          byte[] senddata;
25          String data,number;
26          while(true)
27          {
28              DatagramPacket dp=new DatagramPacket(receivedata, receivedata.length);
29              ds.receive(dp);
30              number=new String(dp.getData());
31              int no=Integer.parseInt(number.trim());
32
33              if(no%2==0)
34              {
35                  data=no+" is Even Number";
36              }
37              else
38              {
39                  data=no+" is Odd Number";
40              }
41              DatagramPacket dpl=new DatagramPacket(data.getBytes(), data.length(), ip, dp.getPort());
42              ds.send(dpl);
43          }
44      }
45  }
46  }
```

Client



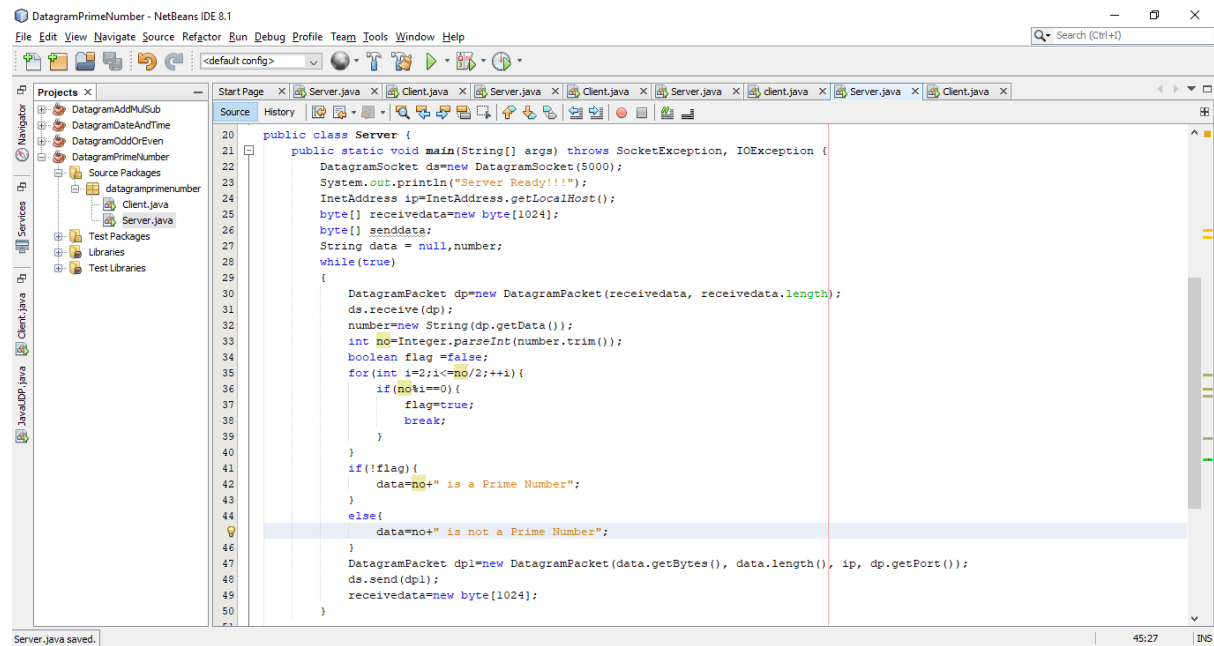
```
20  public class Client {
21      public static void main(String[] args) throws SocketException, UnknownHostException, IOException {
22          DatagramSocket ds=new DatagramSocket();
23          Scanner sc=new Scanner(System.in);
24          InetAddress ip=InetAddress.getLocalHost();
25          byte[] senddata,receivedata;
26          String number,data;
27
28          while(true)
29          {
30              System.out.print("Enter a number : ");
31              number=sc.next();
32              senddata=number.getBytes();
33              DatagramPacket dp=new DatagramPacket(senddata, senddata.length, ip, 5000);
34              ds.send(dp);
35
36              receivedata=new byte[1024];
37              DatagramPacket dpl=new DatagramPacket(receivedata,receivedata.length);
38              ds.receive(dpl);
39              data=new String(dpl.getData());
40              System.out.println(data);
41          }
42      }
43  }
```

Output

```
run:
Enter a number : 5
5 is Odd Number
Enter a number : 6
6 is Even Number
Enter a number : 8
8 is Even Number
```

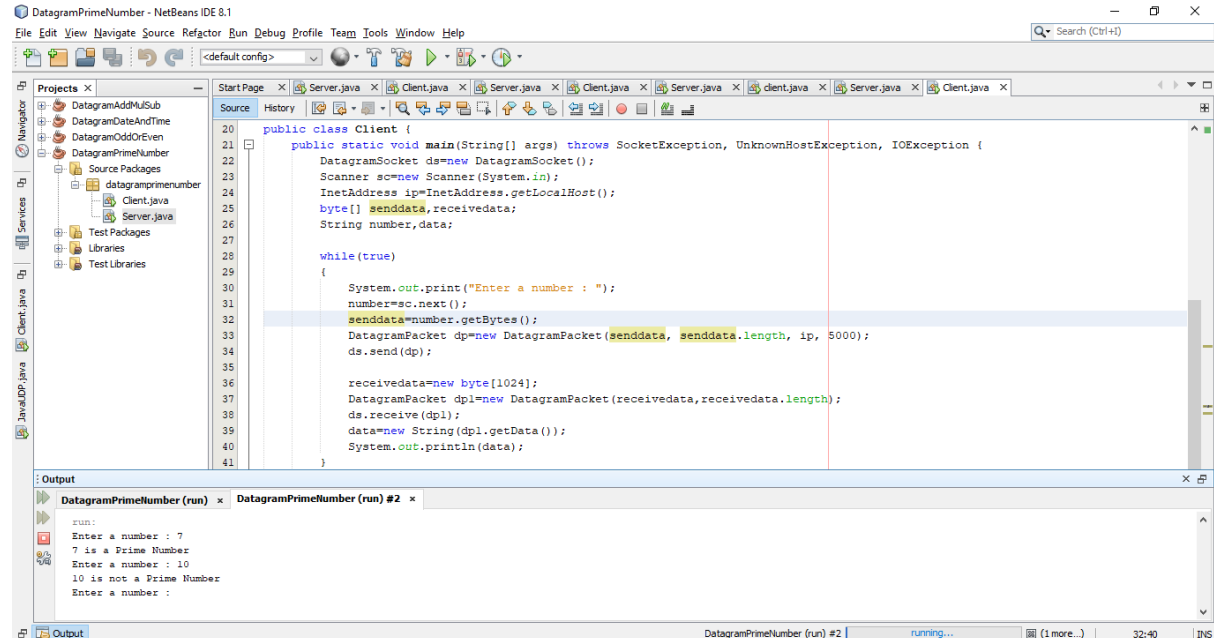
Implement a Server calculator containing ADD(), MUL(), SUB() with datagram

Server



```
20 public class Server {
21     public static void main(String[] args) throws SocketException, IOException {
22         DatagramSocket ds=new DatagramSocket(5000);
23         System.out.println("Server Ready!!!");
24         InetAddress ip=InetAddress.getLocalHost();
25         byte[] receivedata=new byte[1024];
26         byte[] senddata;
27         String data = null,number;
28         while(true)
29         {
30             DatagramPacket dp=new DatagramPacket(receivedata, receivedata.length);
31             ds.receive(dp);
32             number=new String(dp.getData());
33             int no=Integer.parseInt(number.trim());
34             boolean flag =false;
35             for(int i=2;i<=no/2;++i){
36                 if(no%i==0){
37                     flag=true;
38                     break;
39                 }
40             }
41             if(!flag){
42                 data=no+" is a Prime Number";
43             }
44             else{
45                 data=no+" is not a Prime Number";
46             }
47             DatagramPacket dpl=new DatagramPacket(data.getBytes(), data.length(), ip, dp.getPort());
48             ds.send(dpl);
49             receivedata=new byte[1024];
50         }
51     }
52 }
```

Client



```
20 public class Client {
21     public static void main(String[] args) throws SocketException, UnknownHostException, IOException {
22         DatagramSocket ds=new DatagramSocket();
23         Scanner sc=new Scanner(System.in);
24         InetAddress ip=InetAddress.getLocalHost();
25         byte[] senddata,receivedata;
26         String number,data;
27
28         while(true)
29         {
30             System.out.print("Enter a number : ");
31             number=sc.next();
32             senddata=number.getBytes();
33             DatagramPacket dp=new DatagramPacket(senddata, senddata.length, ip, 5000);
34             ds.send(dp);
35
36             receivedata=new byte[1024];
37             DatagramPacket dpl=new DatagramPacket(receivedata,receivedata.length);
38             ds.receive(dpl);
39             data=new String(dpl.getData());
40             System.out.println(data);
41         }
42     }
43 }
```

Output

```
run:
Enter a number : 7
7 is a Prime Number
Enter a number : 10
10 is not a Prime Number
Enter a number :
```