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Batch : B

Aim : Write a program to demonstrate Sub-netting and find subnet masks.

CODE:

```
import java.io.*;
import java.net.InetAddress;
public class SubnetMask {

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

      System.out.println("ENTER IP:");
      BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
      String ip = br.readLine();
      String checkclass = ip.substring(0, 3);

      int cc = Integer.parseInt(checkclass);
      String mask = null;
      if(cc>0)
      {
         if(cc<=127)
         {
            mask = "255.0.0.0";
                  System.out.println("Class A IP Address");
           System.out.println("SUBNET MASK:\n"+mask);
         }
         if(cc>=128 && cc<=191)
         {
            mask = "255.255.0.0";
                        System.out.println("Class B IP Address");
```

```
    System.out.println("SUBNET MASK:\n"+mask);
   }
   if(cc>=192 && cc<=223)
   {
      mask = "255.255.255.0";
    System.out.println("Class C IP Address");
    System.out.println("SUBNET MASK:\n"+mask);
   }
   if(cc>=224 && cc<=239)
   {
    mask = "255.0.0.0";
     System.out.println("Class D IP Address Used for multicasting");
   }
   if(cc>=240 && cc<=254)
   {
    mask = "255.0.0.0";
     System.out.println("Class E IP Address Experimental Use");
   }
}

String networkAddr="";
    String lastAddr="";
String[] ipAddrParts=ip.split("\\.");
String[] maskParts=mask.split("\\.");

for(int i=0;i<4;i++){
int x=Integer.parseInt(ipAddrParts[i]);
int y=Integer.parseInt(maskParts[i]);
int z=x&y;
networkAddr+=z+".";
```

```
            int w=z|(y^255);
            lastAddr+=w+".";
        }

    System.out.println("First IP of block: "+networkAddr);
    System.out.println("Last IP of block: "+lastAddr);
   }
}
```

OUTPUT :

```
E:\3rd-year\sem 1\CN>javac SubnetMask.java

E:\3rd-year\sem 1\CN>java SubnetMask.java
ENTER IP:
157.240.22.35
Class B IP Address
SUBNET MASK:
255.255.0.0
First IP of block: 157.240.0.0.
Last IP of block: 157.240.255.255.

E:\3rd-year\sem 1\CN>java SubnetMask.java
ENTER IP:
222.190.0.0
Class C IP Address
SUBNET MASK:
255.255.255.0
First IP of block: 222.190.0.0.
Last IP of block: 222.190.0.255.

E:\3rd-year\sem 1\CN>
```