



Green University of Bangladesh

Department of CSE

Lab Report-01

Course Name. Data Communication Lab.

Course Code: CSE 308.

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Title: Write a Program to determine the class of an IPv4 address.

Objectives:

- To learn about IP Address.
- To learn IP Address Class (A, B, C, D, E).
- To learn problem solving IP Address Class using C.

Problem Analysis:

The problem is to find IP address class. There are five types of class (A, B, C, D, E). Class range is A:0-127, B:128-191, C:192-223, D:224-239, E:240-255. This is the condition base program. The output of the program is to display for base on condition.

Algorithm:

Step-1: Start.

Step-2: Define variable int a, b, c, d, e.

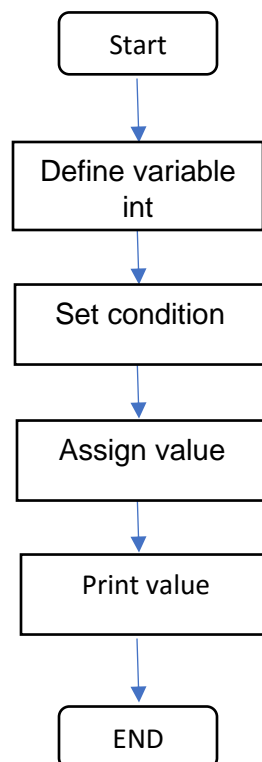
Step-3: Set condition.

Step-4: Assign value.

Step-5: Display the volume.

Step-6: Stop.

Flowchart:



Code:

```
#include<stdio.h>
void main(){
int a,b,c,d,n=1,k=1,z=1;
printf("Please Enter your IP Address:\n");
scanf("%d.%d.%d.%d",&a,&b,&c,&d);
while(n<4)
if(a<0 || a>255 || b<0 || b>255 || c<0 || c>255 || d<0 || d>255){
    z=z+1;
    if(z<4){
        printf("invalid IP address enter your valid IP Address CHANGE IS ONLY TWO: %d\n",k++);
        scanf("%d.%d.%d.%d",&a,&b,&c,&d);
    }else{
        printf("YOU ARE WRONG MANY TIMES . YOUR CHANGE IS OVER");
    }
    n++;
}else{
if(a>=0 && a<=127){
    printf("class A");
}else if(a>127 && a<=191){
    printf("class B");
}else if(a>191 && a<=223){
    printf("class C");
}else if(a>223 && a<=239){
    printf("class D");
}
else if(a>239 && a<=255){
    printf("class E");
}else{
    printf("thanks");
}
n=n+4;
}
}
```

Output (Compilation, Debugging & Testing):

```
Please Enter your IP Address:
112
invalid IP address enter your valid IP Address CHANGE IS ONLY TWO:1
12
invalid IP address enter your valid IP Address CHANGE IS ONLY TWO:2
123.12.12.12
class A
Process returned 7 (0x7)   execution time : 10.959 s
Press any key to continue.
```

Discussion and Conclusion:

This is the C program code written in Online compiler. The program is focused on the defined of IP address class for the given IP address. From this lab, I understood the basic of IP address class including the class byte range and how to determine the class of an IPv4 address.