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DATE:

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## CN Experiment 5

Aim: To write a program to identify the class and subnet address of the given IP address.

## Theory:

An IP address is a unique numerical identifier assigned to each device connected to a computer network that uses the IP for communication. It serves as the location address for devices to communicate. It serves as the location address for devices to communicate with each other for on a network.

Subnetting is a technique used to divide large networks into smaller subnetworks or subnets. This is done to efficiently allocate IP addresses and manage network traffic. Subnetting is done by borrowing bits from the host portions of the IP address and using them to create a network portion. This allows for the creation of multiple subnets with single network ID. Subnet masks are used to determine which bits represent the network and which bits represent the host in an IP address.

Class	Octet range	Subnet mask
A	0-127	255.0.0.0
B	128-191	255.255.0.0
C	192-223	255.255.255.0
D	224-239	—
E	240-255	—

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Conclusion: We have studied classes and subnetting and written a program to identify the same.



Department of Computer Engineering  
Class: T.Y. B.Tech. Semester: V

Course Code: DJS22CEL502

Course Name: Computer Networks Lab

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## Experiment No: 5

**Aim:** Write a program to find the class and subnet

address in ipv4

### Program:

```
ip = input("Enter ip address in dotted decimal format")
def do_everything(ip):
    bytes = ip.split(".")
    flag = 0
    for byte in bytes:
        if int(byte) < 0 or int(byte) > 255:
            print("Invalid ip address")
            flag = 1
    if len(bytes) != 4:
        flag = 1
        print("Invalid address")
    if flag == 0:
        if int(bytes[0]) < 128:
            print("This is class A")
            print("Subnet mask is 255.0.0.0")
            addr = bytes[0] + ".0.0.0"
            print("Subnet address is ", addr)
        elif int(bytes[0]) < 192:
            print("This is class B")
            print("Subnet mask is 255.255.0.0")
            addr = bytes[0] + "." + bytes[1] + ".0.0"
            print("Subnet address is ", addr)
        elif int(bytes[0]) < 224:
            print("This is class C")
            print("Subnet mask is 255.255.255.0")
            addr = bytes[0] + "." + bytes[1] + "." + bytes[2] + ".0"
            print("Subnet address is ", addr)
        elif int(bytes[0]) < 240:
            print("This is class D")
            print("Not used for subnetting")
        else:
            print("This is class E")
            print("Not used for subnetting")
    do_everything(ip)
```



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```
import socket

hostname = input("Please enter website address:\n")
ip = socket.gethostbyname(hostname)
do_everything(ip)
```

#### Screenshots:

```
djsce-student/desktop/a1/exp5.py (a1)
Enter ip address in dotted decimal format192.57.6.100
This is class C
Subnet mask is 255.255.255.0
Subnet address is 192.57.6.0
Please enter website address:
google.com
This is class C
Subnet mask is 255.255.255.0
This is class C
This is class C
Subnet mask is 255.255.255.0
Subnet address is 192.57.6.0
Please enter website address:
google.com
This is class B
Subnet mask is 255.255.0.0
Subnet address is 142.250.0.0
```

#### Conclusion:

Thus, we have studied and identified various classes and subnet addresses in ipv4.