LAB Assignment -5

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Class:- SY CSF
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Title:- Subnetting.

Aim:- Write a program to implement subnetting to find subnet mask.

Objectives:-
1) To understand & learn the concept of IP address, subnet mask & subnetting.

Theory:-
i) Introduction to IPV4 & IPV6 along with difference.
IPV4 & IPV6 are internet protocol version 4 & internet protocol version 6. IP version 6 is new version of internet protocol which is way better than IP version 4 in terms of complexity & efficiency.
IPV4 has a header of 20-60 bytes IPV4 consist of 4 fields which are separated by dot(.).

ii) CIDR:-
It is a method of assigning internet Protocol addresses that improves the efficiency of address distribution & replaced the previous system based on class A, Class B & Class C networks.

iii) Default Subnet Mask for Class A, B & C

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Class A :- 255.0.0.0
Class B - 255.255.0.0
Class C - 255.255.255.0

iv) Subnetting example.
→ A subnet is sub-network of a network that falls with the class A, B or C range.
Ex. 172.16.0.0 is Class B network.

- Students Observation:
Thus, we have written a program to implement subnetting to find subnet mask.

- FAQs.

Q.1] Describe classful and classless IP Addressing scheme with an example.
→ In classful routing, address is divided into three parts which are: Network, Subnet & Host.
While in classless routing, address is divided into two parts which are: subnet & Host.

Q.2] What are different special / reserved IPV4 addresses ?
→ The IP adress range 127.0.0.0 - 127.255.255.255 is reserved for loopback i.e is a Host's self address also known as local host address. This loopback IP address is managed entirely by & within the OS.

Q.3] What are uses of subnetting?

→ It enchances routing efficiency, network management control. & improving network security.

Q.4] An organization is granted the block 200.50.100.0. The administrator wants to create 14 subnets.
a] Find the subnet mask.

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