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Assignment 05

Title: Demonstrate subnetting

Aim Write a program to demonstrate subnetting & find subnet masks

S/w & H/w requirements

~~Eclipse~~ Sublime-text-editor, windows 64-bit edition, i-5- 8th Gen, 8GB RAM & 512GB SSD,
Compiler GCC-6.3.0

Theory:

An IP adress is a 32-bit address that uniquely & universally defines the connection of a host or a router to the internet

Network classes:

1) Class A: network use default subnet mask of 255.0.0.0 & have 0-127 as their first octet.
2) class B networks use subnet mask of 255.255.0.0 and have 128-191 as their first octet
3) class C networks use subnet mask of 255.255.255.0 & have 192-~~223~~ 223 as their first octet.
4) class D & E. They have 224-239 as their first octet. class E have 240-254 as their first octet.

The reasons of subnetting / segmenting the network are as follows:

1) To divide large network into smaller segments

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to reduce traffic

2) To connect networks across geographical areas

3) To connect different topologies together

4) To avoid limitations such as maximum cable length.

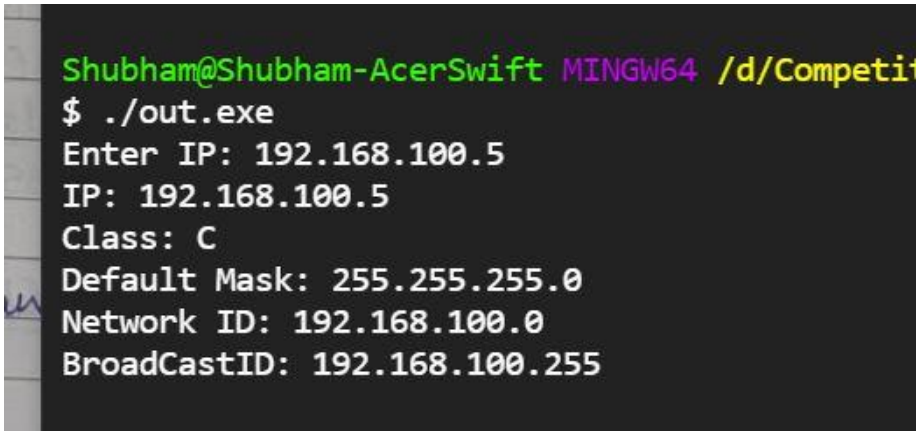
Testcases:

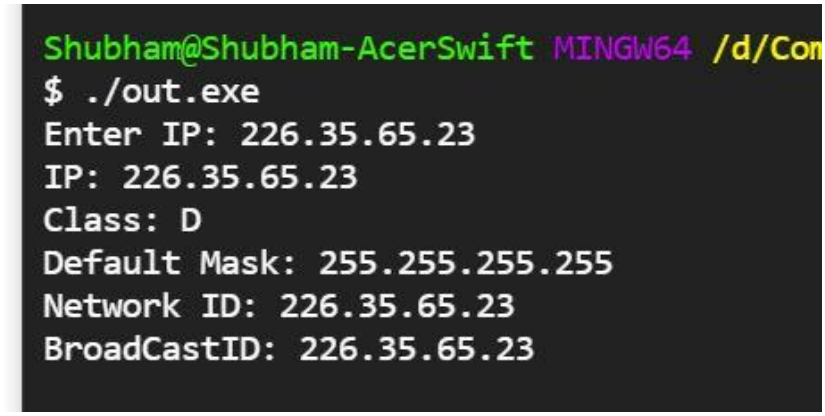
1) 226.35.65.23 IP address is given as input
output: class D IP address used for multicasting.

2) Input: IP: 192.168.100.5
output: class C IP adress
Subnet mask: 255.255.255.0
first block: 192.168.100.0
Second block: 192.168.100.255.

Conclusion:

Hence, we have studied IP addressing & subnetting


Shubham@Shubham-AcerSwift MINGW64 /d/Competi
$ ./out.exe
Enter IP: 192.168.100.5
IP: 192.168.100.5
Class: C
Default Mask: 255.255.255.0
Network ID: 192.168.100.0
BroadCastID: 192.168.100.255


Shubham@Shubham-AcerSwift MINGW64 /d/Com
$ ./out.exe
Enter IP: 226.35.65.23
IP: 226.35.65.23
Class: D
Default Mask: 255.255.255.255
Network ID: 226.35.65.23
BroadCastID: 226.35.65.23