Practical No.3

AIM:-Write a program to trace the port of a particular host.

SOFTWARE REQUIRED:- Operating System: - Ubuntu Python 3

Theroy :

What is a port?

A **port** is a network access point that helps direct data to specific services or applications on a device. It allows multiple services, like web browsing or email, to run simultaneously over the same network connection by using different port numbers

What is a port number?

Ports are standardized across all network-connected devices, with each port assigned a number. Most ports are reserved for certain protocols — for example, all Hypertext Transfer Protocol (HTTP) messages go to port 80. While IP addresses enable messages to go to and from specific devices, port numbers allow targeting of specific services or applications within those devices.

What are the different port numbers?

Port Number	Protocol	Purpose
20, 21	File Transfer Protocol (FTP)	Transfers files between a client and server.
22	Secure Shell (SSH)	Provides secure, encrypted network communication.
25	Simple Mail Transfer Protocol (SMTP)	Used for sending emails.
53	Domain Name System (DNS)	Converts domain names to IP addresses.
80	Hypertext Transfer Protocol (HTTP)	Handles non-encrypted web traffic.
123	Network Time Protocol (NTP)	Synchronizes computer clocks.
179	Border Gateway Protocol (BGP)	Manages routing between large networks (autonomous systems).
443	HTTP Secure (HTTPS)	Encrypts and secures web traffic.
500	Internet Security Association and Key Management Protocol (ISAKMP)	Sets up secure IPsec connections.
3389	Remote Desktop Protocol (RDP)	Allows remote desktop access.

Socket:

Sockets provide the communication mechanism between two computers using TCP. A client program creates a socket on its end of the communication and attempts to connect that socket to a server. When the connection is made, the server creates a socket object on its end of the communication. Then client & server can communicates with each other.

ALGORITHM

Client:

1) Create a socket object.
2) Establish the connection with server
3) Wait till the server sends its ip & port number using get local port method. 4) Display the port number of the server
5) Exit

Server:

1) Create a socket with the specific client port number.
2) Wait till client request for a connection
3) Get the port number of the machine
4) Send it to the client
5) Exit

CONCLUSION:-

Hence, we have studied program to trace the port of a particular host by getting it port number.

Name & Sign of Course

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