Experiment No: 10	
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Date of Performance	
Title	Implementation of a Basic Port Scanner Using Python for Network Security Analysis
Theory (short)	This code performs a **port scanning** operation, which is commonly used in network security to test the availability and openness of network ports on a remote system. It uses the socket module to attempt connections to a specified range of ports on a given host. By scanning a range of ports (between a specified minimum and maximum), the code can identify which ports are open (connection successful) and which are closed (connection failed).

Program	*import* socket def port_scan(): link = input("Enter link to perform scan ports on: ") host = socket.gethostbyname(link) res = "a" *while*(res != "bye"): min = input("Enter the lowest limit of range: ") max = input("Enter the highest limit of range: ") *for* port in range(int(min), int(max)): *try*: client_socket = socket.socket() print("Trying connection to", host, "on port", port, "...") *if* client_socket.connect_ex((host, port)) == 0: print("Connection to", host, "on port", port, "was SUCCESSFUL") *else*: print("Connection to", host, "on port", port, "was A FAILURE") client_socket.close() *except* socket.error:

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                print("Connection to", host, "on port", port, "was A FAILURE")
                client_socket.close()

        res = input("Scan has ended, To Exit press 'bye', To continue search with different inputs press 'y'")

    print("Scanner Exited.")

if __name__ == "__main__":
    port_scan()
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Output Screenshots	

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PS C:\Users\Suyash Tambe\Desktop\CN> python -u "c:\Users\Suyash Tambe\Desktop\CN\Assignment10.py"
Enter link to perform scan ports on: www.google.com
Enter the lowest limit of range: 70
Enter the highest limit of range: 82
Trying connection to 216.58.196.164 on port 70 ...
Connection to 216.58.196.164 on port 70 was A FAILURE
Trying connection to 216.58.196.164 on port 71 ...
Connection to 216.58.196.164 on port 71 was A FAILURE
Trying connection to 216.58.196.164 on port 72 ...
Connection to 216.58.196.164 on port 72 was A FAILURE
Trying connection to 216.58.196.164 on port 73 ...
Connection to 216.58.196.164 on port 73 was A FAILURE
Trying connection to 216.58.196.164 on port 74 ...
Connection to 216.58.196.164 on port 74 was A FAILURE
Trying connection to 216.58.196.164 on port 75 ...
Connection to 216.58.196.164 on port 75 was A FAILURE
Trying connection to 216.58.196.164 on port 76 ...
Connection to 216.58.196.164 on port 76 was A FAILURE
Trying connection to 216.58.196.164 on port 77 ...
Connection to 216.58.196.164 on port 77 was A FAILURE
Trying connection to 216.58.196.164 on port 78 ...
Connection to 216.58.196.164 on port 78 was A FAILURE
Trying connection to 216.58.196.164 on port 79 ...
Connection to 216.58.196.164 on port 79 was A FAILURE
Trying connection to 216.58.196.164 on port 80 ...
Connection to 216.58.196.164 on port 80 was SUCCESSFUL
Trying connection to 216.58.196.164 on port 81 ...
Connection to 216.58.196.164 on port 81 was A FAILURE
Scan has ended, To Exit press 'bye', To continue search with different inputs press 'y'bye
Scanner Exited.
```