DATE  **EXPERIMENT NO-1**

**FAMILIARIZATION OF NETWORKING COMMANDS IN LINUX OPERATING SYSTEM**

**/\* AIM AND networking commands SHOULD BE WRITTEN IN ROUGH RECORD FOR THE NEXT LAB\*/**

**AIM**

Familiarize the basic Linux commands that allow our system to communicate in Internet by performing the following experiments

1. View the configuration including addresses of your computer’s network interfaces

2. Test the network connectivity between your computer and several other computers

3. View the active TCP connections in the computer after visiting a website.

4. Find the hardware/MAC address of another computer in the network using ARP.

5. View the network configuration files

**NEWORKING COMMANDS**

**1. View the configuration including addresses of your computer’s network interfaces**

(Detailed Writeup of commands used-ifconfig and ip)

**2. Test the network connectivity between your computer and several other computers**

(Detailed Writeup of commands used-ping)

**3. View the active TCP connections in the computer after visiting a website.**

(Detailed Writeup of commands used-netstat )

**4. Find the hardware/MAC address of another computer in the network using ARP.**

(Detailed Writeup of commands used-arp )

**5. View the network configuration files**

(Detailed Writeup of commands used)

**IMLEMENTATION AND OUTPUT**

**1. ifconfig**

**(Paste the screenshot of ifconfig)**

**2.**

**3.**

**4.**

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**RESULT**

**All LINUX networking commands related to the experiment are familiarized and executed successfully.**

DATE  **EXPERIMENT NO-2**

**FAMILIARIZATION OF NETWORKING COMMANDS IN WINDOWS OPERATING SYSTEM**

**/\* AIM AND networking commands SHOULD BE WRITTEN IN ROUGH RECORD FOR THE NEXT LAB\*/**

**AIM**

Familiarize the basic commands in Windows OS that allow our system to communicate in Internet by performing the following experiments

1. View the configuration including addresses of your computer’s network interfaces

2. Test the network connectivity between your computer and several other computers

3. View the active TCP connections in the computer after visiting a website.

4. Find the hardware/MAC address of another computer in the network using ARP.

5. View the network configuration files

**NEWORKING COMMANDS**

**1. View the configuration including addresses of your computer’s network interfaces**

(Detailed Writeup of commands used-ipconfig)

**2. Test the network connectivity between your computer and several other computers**

(Detailed Writeup of commands used-ping)

**3. View the active TCP connections in the computer after visiting a website.**

(Detailed Writeup of commands used-netstat )

**4. Find the hardware/MAC address of another computer in the network using ARP.**

(Detailed Writeup of commands used-arp )

**5. View the network configuration files**

(Detailed Writeup of commands used)

**IMLEMENTATION AND OUTPUT**

**1. ipconfig**

**(Paste the screenshot of ipconfig)**

**2.**

**3.**

**4.**

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**RESULT**

**All networking commands related to the experiment in Windows operating system are familiarized and executed successfully.**

DATE  **EXPERIMENT NO-3**

**SOCKET PROGRAMMING**

**/\* AIM, DISCUSSION AND ALGORITHM SHOULD BE WRITTEN IN ROUGH RECORD FOR THE NEXT LAB\*/**

**AIM**

Familiarize the system calls used for creating sockets and transferring data between two nodes, and implement socket programming using TCP and UDP sockets

**DISCUSSION**

***1. INTRODUCTION TO SOCKETS***

……..

***2. SYSTEM CALLS FOR SOCKET PROGRAMMING***

**……….**

**ALGORITHM**

*A. TCP SOCKET PROGRAMMING*

*…..Generalized Algorithm For Communication Within A Machine And Between Machines----*

*B. UDP SOCKET PROGRAMMING*

*…..Generalized Algorithm For Communication Within A Machine And Between Machines----*

**IMPLEMENTATION**

**SAMPLE INPUT AND OUTPUT**

**RESULT**

Familiarized the system calls related to socket programming, implemented socket communication using TCP and UDP successfully.

DATE  **EXPERIMENT NO-4**

**ARRAY MANIUPULATION USING SOCKET PROGRAMMING**

**/\* AIM, DISCUSSION AND ALGORITHM SHOULD BE WRITTEN IN ROUGH RECORD FOR THE NEXT LAB\*/**

**AIM**

To implement a program to find the maximum, minimum and average of an array of integers using socket programming

(i) Using SOCK\_STREAM

(ii) USING SOCK\_DGRAM

**DISCUSSION**

**ALGORITHM**

**IMPLEMENTATION**

**SAMPLE INPUT AND OUTPUT**

**RESULT**

**The program was successfully implemented and the results are verified using different test cases.**