CN Lab Quiz

Weightage: 5 Absolutes

Total Marks: 45

Time: 2hr

Quiz Rules:

1. Only quiz should be opened on screen.
2. **NO** discussion/talking during the quiz.
3. **All 16 questions are mandatory.**
4. Write your answers on this file and submit within the deadline.
5. Use of Google Chrome or any browser is strictly **prohibited.**
6. Using ubuntu/code runner/any software is **not allowed.**
7. Put mobiles in bag. If any mobile is seen on the desk, **student will be disqualified.**
8. Rename your file before submitting to Roll#\_Name eg. XXLXXXX\_NAME

*If any student is seen breaking any of the above rules, he/she will be marked zero and attendance will be marked Absent as well.*

Name: Abdullah Tahir Roll no: 21L-5419

1. What is meant by IP address? [1]

An IP (Internet Protocol) address is a numerical code that is issued to every device connected to a computer network that communicates using the Internet Protocol. It has two primary functions: it identifies the host or network interface and it tells you where the host is in the network.

1. What is more suitable, increased network latency or decreased network latency? [2]

Decreased network latency is more suitable. Because increased network latency means more delay in communication of networks and decreased network latency means less delay in communications of network.

1. What is software category is Wireshark, and what is its main use in network analysis? [4]

Wireshark is a software used to analyze packet information by capturing the traffic and analyzing the traffic outgoing the network.

1. How can we make our loop go to end of file in c if we do not know the number of iterations? [1]

We can make our loop to go end of file in c by applying the while loop and keeping the condition until the filepointer! = NULL Example:

while (filePointer! =NULL)

1. What does HTTP stand for, and what is its role in web communication? [4]

HTTP stands for **Hyper Text Transfer Protocol**. It is used to send a request for exchange for communication and exchange of packets. HTTP works usually on port number 80.

1. What are client and server machines? explain with example. [5]

A client machine is a device that requests services from a server such as a computer or smartphone. A server machine is a computer or system that delivers services or data to clients through a network.

**Example:** When you visit a website, it is client, your request is processed by a web server and then delivers the website data back to your device for display, it is server.

7. What is a socket? [2]

A socket is a software endpoint used for network communication in a computer network. It enables communication between two different devices or processes over a network, such as the Internet. Sockets allow data to be sent and received between applications running on different devices, facilitating communication and data exchange.

1. What is the command to change folder on terminal? [1]

Command to change folder on terminal is: **cd**   
Example: cd Desktop

1. How do you open a file for reading in C? Provide an example. [2]

Opening a file for reading in C, you can use the fopen () function with mode "r". Example:

FILE \*file1;

file1 = fopen ("sample.txt", "r");

1. What is the purpose of the fclose function in C, and why is it important to use it after file operations? Give example C code. [2]

|  |
| --- |
| The purpose of fclose function in C is to close the opened file and it is important to close the file after all operations because we would not want to perform by chance any un sudden operation on the file  Example:  File \*File1;  File1= fopen ("sample.txt", "r");  while (File1! =NULL)  {  char a; fgetc(a,file1);  } fclose(); |

1. How do you compile a C source file named "example.c" into an executable program using GCC? [2]

A file is compiled in GCC using following command: gcc -o example example.c

1. What are some common protocols or technologies that Wireshark can analyze and decode within captured network packets? Provide examples of a few. [4]

Common protocol or technologies that Wireshark can analyze and decode within captured network packets are**: HTTP, TCP, FTP, IP**

1. Give one example of network response code and describe what it means? [2]

**404-NOT FOUND** is an example of network response code and it means that file was not found

1. Describe what is an OSI Model? Describe each layer. [5]

**Open Systems Interconnection** model is a conceptual framework used to understand network interactions. It consists of 7 layers, each responsible for specific tasks:

**Application Layer**: Provides network services directly to end-users or applications and supports network applications like email, file transfer, and web browsing

**Presentation Layer**: Handles data translation, encryption, and compression, ensuring that data sent from the application layer of one system can be read by the application layer of another system

**Session Layer**: Manages and establishes communication sessions, dialog control, and synchronization between devices

**Transport Layer**: Ensures end-to-end communication, error recovery, and flow control between devices on different host

**Network Layer**: Focuses on routing packets of data from source to destination across multiple networks, addressing, and logical path selection

**Data Link Layer**: Responsible for creating a reliable link between two directly connected nodes and handles error detection and correction

**Physical Layer**: Deals with physical connections and transmission of raw data bits over a physical medium

15. Describe the purpose of each command [1 each]

1. Top

**Top** command is used to monitor and analyze process and CPU utilization of machine

1. Ps

**Ps** command is used to list all the processes that are currently running on computer

1. Kill PID

**Kill PID** is used to terminate a particular process by the unique PID of the process which is currently running on computer

1. Chmod

**Chmod** is used to modify access or permissions to read or write on file

1. Host

**Host** is used to obtain domain name for given IP address

1. Ping

**Ping** used to test the connectivity among two communication networks