CN LAB ASSIGNMENT – 02

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CS-A1

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OBJECTIVE: Study of cable fabrication, peer-to-peer network, and star topology through Virtual Labs.

THEORY:

Fabrication of Cables:

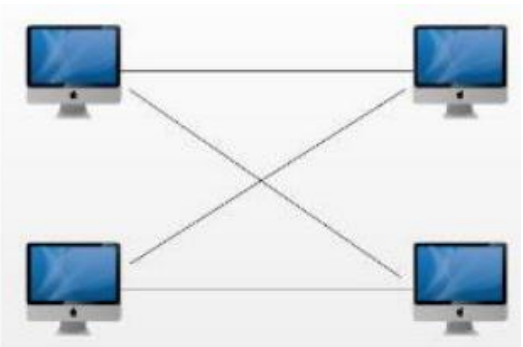
A twisted pair consists of two insulated conductors twisted together in the shape of a spiral. It can be shielded or unshielded. Twisting of wires will reduce the effect of noise or external interference. There are 3 types of cable:

1) **Straight-through cable:** Straight-Through refers to cables that have the pin assignments on each end of the cable. Pin 1 connector A goes to Pin 1on connector B, Pin 2 to Pin 2 and so on. They are mostly used to connect a host to client.

2) **Crossover cable**: Crossover wired cables are very much like Straight Through cables with the exception that TX and RX lines are at opposite positions on either end of the cable. Pin 1 on connector A goes to Pin 3 on connector B, Pin 2 on connector A goes to Pin 6 on connector B so on. Crossover cables are most commonly used to connect two hosts directly.

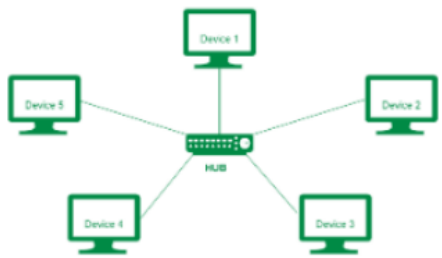
3) **Roll-over cable**: Rollover wired cables have opposite Pin assignments on each end of the cable or in other words it is "rolled over". Pin 1 of connector A would be connected to Pin 8 of connector B; Pin 2 of connector A would be connected to Pin 7 of connector B and so on. Rollover cables are used to connect to a devices console port to make programming changes to the device.

Peer to Peer Topology:



Peer to peer is the relationship where the devices share the link equally. The examples are ring and mesh topologies. In peer-to-peer architecture every node is connected to other node directly. Every computer node is referred as peer. Every peer provides services to other peers as well as uses services of them. There is no central server present. Star Topology: It has fast performance since it has few nodes and low network traffic. In this topology, hub can be upgraded easily. Easy to troubleshoot. Easy to setup and modify. Only that node is affected which has failed, rest of the nodes can work smoothly.

Star Topology:



It has fast performance since it has few nodes and low network traffic. In this topology, hub can be upgraded easily. Easy to troubleshoot. Easy to setup and modify. Only that node is affected which has failed, rest of the nodes can work smoothly.

OUTPUT:

FABRICATION OF CABLES

Pre Test

1) Cross-over cable is used to connect ?
- (●) Similar Devices
- ( ) Dissimilar Devices
- ( ) Router to Computer
- ( ) Router to Switch

2) What is the speed of the CAT 5 UTP Cale ?
- ( ) Upto 10 Mbps
- ( ) Upto 20 Mbps
- (●) Upto 100 Mbps
- ( ) Upto 600 Mbps

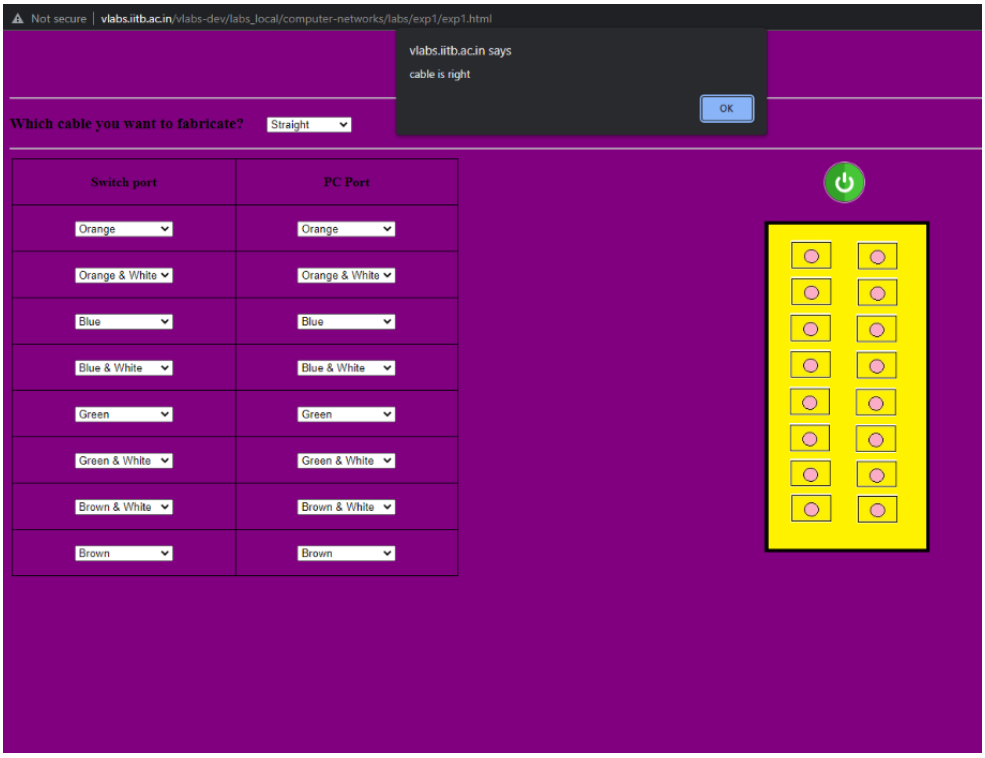
3) Roll-over cable is used to connect ?
- ( ) Similar Devices
- ( ) Dissimilar Devices
- (●) Router to Computer
- ( ) Router to Switch

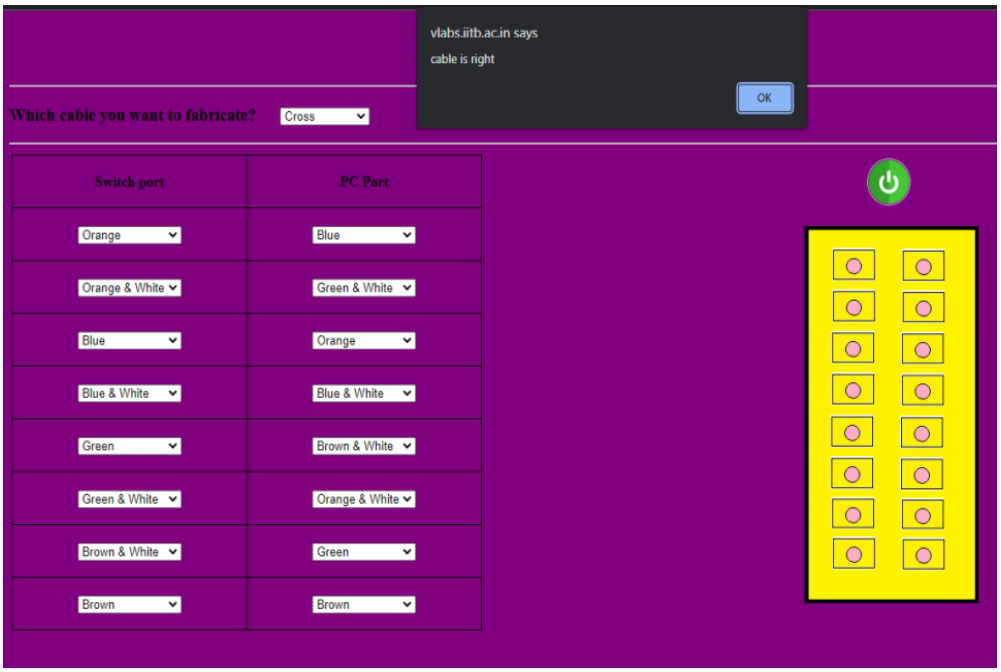
Evaluate

1) Correct

2) Correct

3) Correct





Post Test

1) Which connector is used to crimp a UTP cable
- ( ) BNC
- ( ) SC
- ( ) ST
- (●) RJ-45

2) Straight-through cable is used to connect ?
- ( ) Similar Devices
- (●) Dissimilar Devices
- ( ) Router to Computer
- ( ) Router to Switch

Evaluate

1) Correct

2) Correct

PEER TO PEER

Pre Test

1) To create a Star Topology we require a central networking Device.
- (•) True
- ( ) False

2) The topology with highest reliability is:
- ( ) Bus topology
- ( ) Star topology
- ( ) Ring topology
- (•) Mesh topology

3) Roll-over cable is used to connect ?
- ( ) Mesh Topology
- (•) Star Topology
- ( ) Bus Topology
- ( ) Physical Topology

Evaluate

1) Correct

2) Correct

3) Correct

Post Test

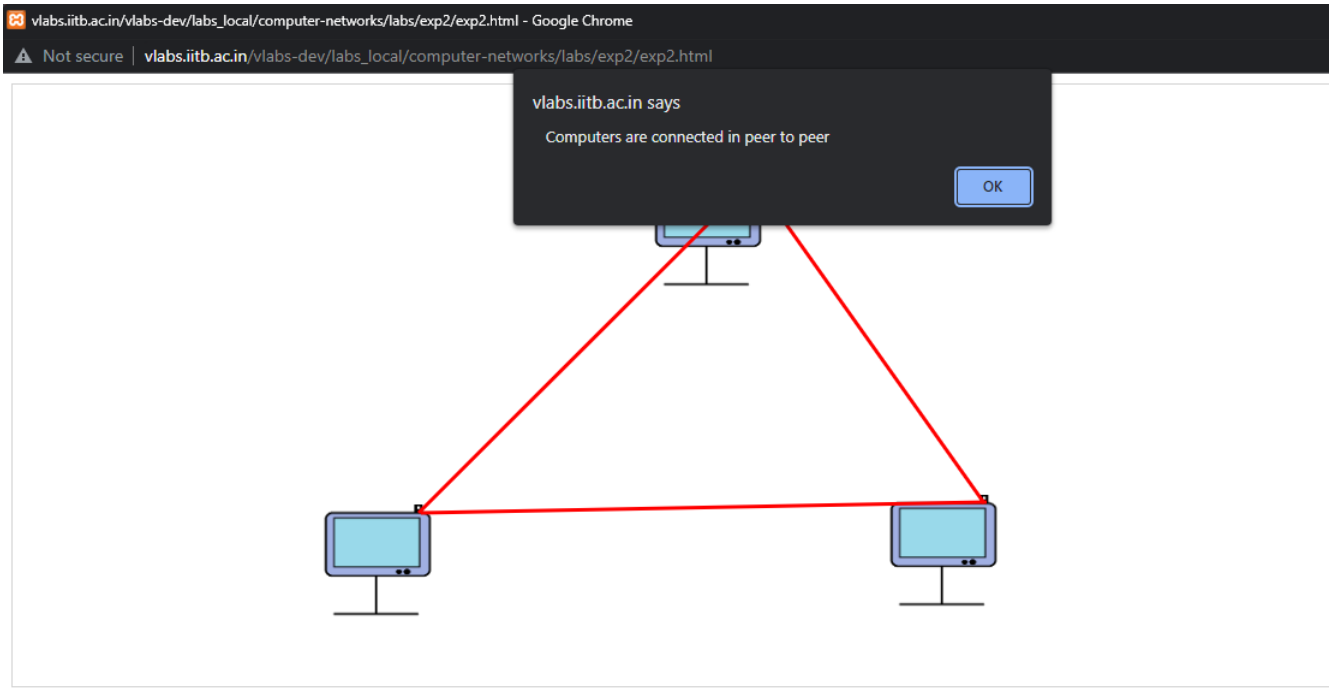
1) Bus, ring and star topologies are mostly used in the
- (•) LAN
- ( ) MAN
- ( ) WAN
- ( ) Internetwork

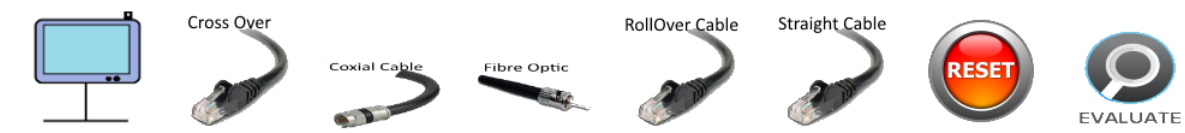
2) In Peer to peer network topology it is not necessary that all Pc's should be connected in a network.
- ( ) True
- (•) False

Evaluate

1) Correct

2) Correct





COMPUTER

START TOPOLOGY

Pre Test

1) To create a Star Topology we require a central networking Device.
- (●) True
- ( ) False

2) The topology with highest reliability is:
- ( ) Bus topology
- ( ) Star topology
- ( ) Ring topology
- (●) Mesh topology

3) Roll-over cable is used to connect ?
- ( ) Mesh Topology
- (●) Star Topology
- ( ) Bus Topology
- ( ) Physical Topology

Evaluate

1) Correct

2) Correct

3) Correct

Post Test

1) Bus, ring and star topologies are mostly used in the
- (●) LAN
- ( ) MAN
- ( ) WAN
- ( ) Internetwork

2) In Peer to peer network topology it is not necessary that all Pc's should be connected in a network.
- ( ) True
- (●) False

Evaluate

1) Correct

2) Correct