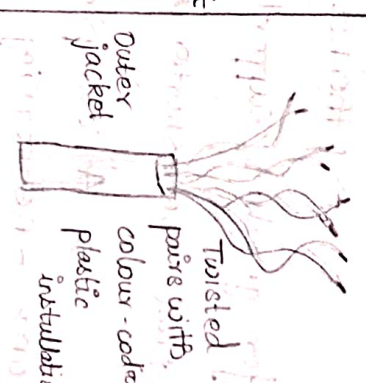
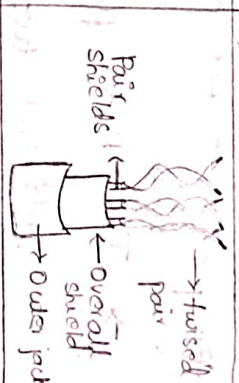
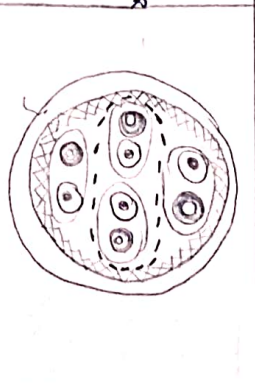
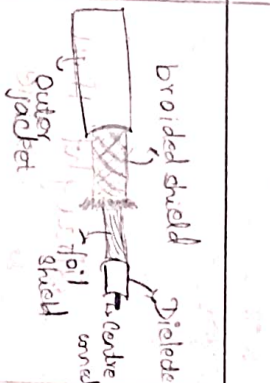


AIM:

Study of different types of network cables.

Cable type	Category	Maximum Data	Advantages	Disadvantages	Application/Use	Image
UTP	Category 3 Category 5 Category 5e	10 bps Upto 100Mbps 1 Gbps	Cheaper in cost Easy to install	More prone to EMI Electromagnetic interference noise.	10Base-T ethernet. Fast Ethernet, Gigabit Ethernet	 <p>Twisted pairs with color-coded plastic insulation. Outer jacket</p>
STP	Category 6, 6a Category 7	10 Gbps 10 Gbps	Shielded faster than UTP less susceptible	Expensive Greater installation effort	Gigabit Ethernet 10 G Ethernet (ssm) widely used in data centre.	 <p>Twisted pair Pair shields Overall shield Outer jacket</p>
Coxial cable	Rg-6 Rg-59 Rg-11	10 - 100Mbps	high bandwidth immune to interference low loss bandwidth	Limited distance cost size is bulky	Speed of signal is 500m Television network high speed internet connections.	 <p>Twisted pair Pair shields Overall shield Outer jacket</p>
fibres optics cable.	Single mode Multimode	100 Gbps	high speed high bandwidth high security long distance	Expensive requires skilled installer.	Maximum distance of fibre optic cable is around 100meters	 <p>Twisted pair Pair shields Overall shield Outer jacket</p>

b) Make your own Ethernet Cross - Over Cable/
Straight cable.

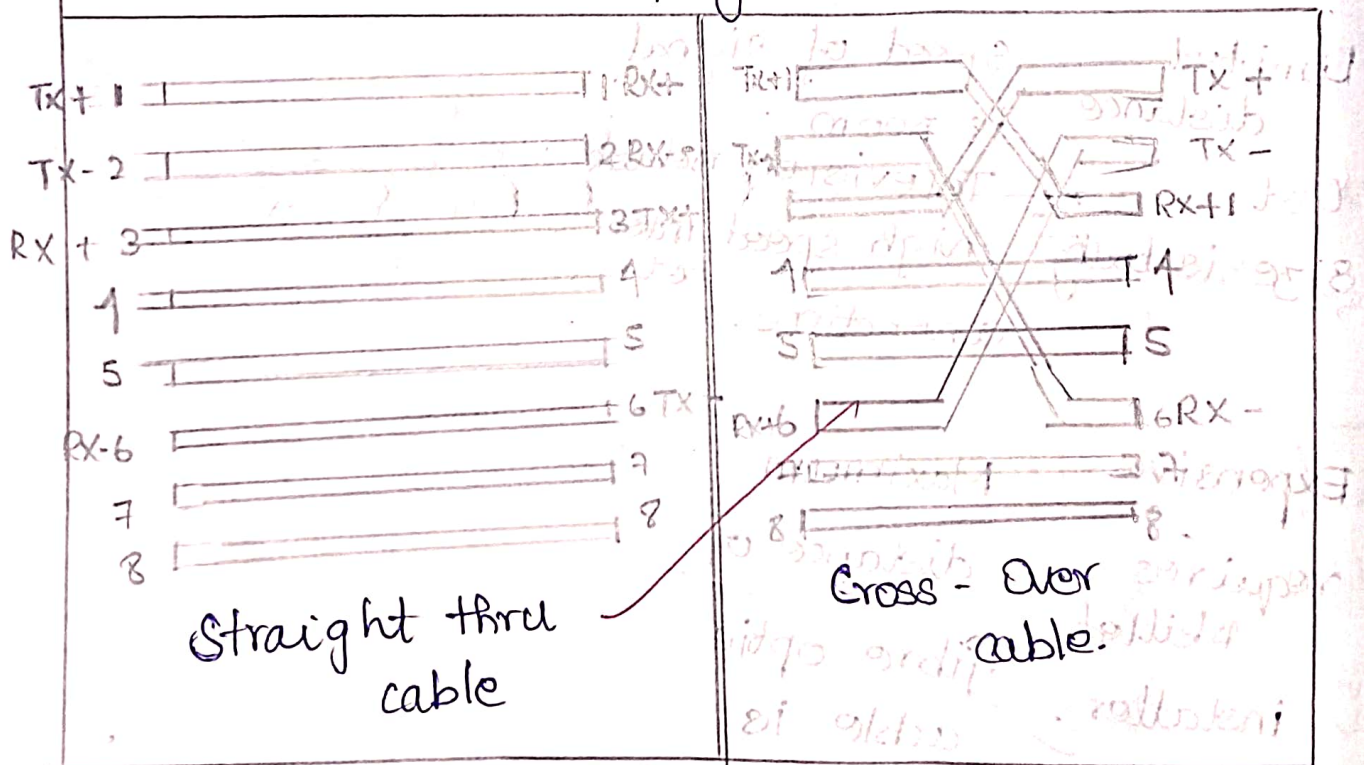
Tools and parts needed.

→ Ethernet cabling: CAT5e is certified for gigabit support. CAT5 cabling works as well just over shorter distance.

→ A crimping tool. This is an all-in-one - networking tool shaped to push down the pins in the plug and strip.

→ Two RJ45 plugs.

→ Optional two plug shields.



1) What is the diff between cross cable and straight cable?

Straight cable	Cross cable .
→ known as patch cable → Used to connect different types of devices like computer to switch or router.	→ known as cross-over cable. → Used to connect similar devices directly like computer or two switches.

2) Which type of cable is used to connect two PC?

Cross - Cable .

3) Which type cable is used to connect a router/switch to your PC?
Straight Cable.

4) find out the category of twisted pair cables in your LAN to connect the PC?
twisted pair cable used in LAN is Category 5e or category 6.

5) Write down your understanding, challenges faced and output - recieved?
Understanding - Twisted Pair, Straight cable, cross cable.

Challenges faced - Ensuring the correct wiring order.

Properly crimping RJ45 connectors to avoid loose connection.

Result:

The experiment is successfully executed and output is verified.