Ethernet cables

What is an Ethernet cable?

An Ethernet cable is one of the most common forms of network cable used on wired networks. Ethernet cables connect devices within a local area network, like PCs, routers, and switches. Both end of cable is called RJ45 (Registered Jack-45) connector.

Catogories of Ethernet cables?

The cable can be categorized as **Cat 5** (Catagory 5)**, Cat 5e, Cat 6 UTP** (unshielded twisted pair) **cable**. Cat 5 UTP cable can support 10/100 Mbps Ethernet network, whereas Cat 5e and Cat 6 UTP cable can support Ethernet network running at 10/100/1000 Mbps. You might heard about Cat 3 UTP cable, it's not popular anymore since it can only support 10 Mbps Ethernet network.

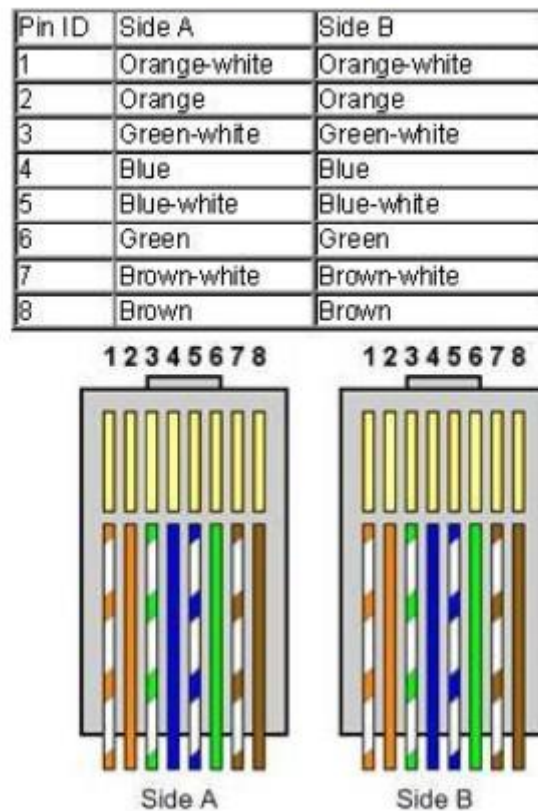## Type of Ethernet cables?

There are commonly two main types of Ethernet cables that straight-through or crossover.

1) Straight-through cable:

Usually different type of devices are connected via Straigh-through cables. In particular, it can be used to connect,

i) Connect a computer to a switch/hub's normal port.
ii) Connect a computer to a cable/DSL modem's LAN port.
iii) Connect a router's WAN port to a cable/DSL modem's LAN port.
iv) Connect a router's LAN port to a switch/hub's uplink port. (normally used for expanding network)
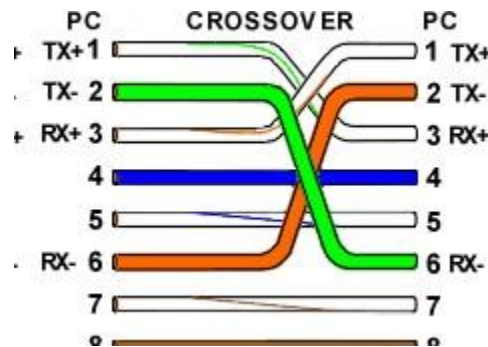v) Connect 2 switches/hubs with one of the switch/hub using an uplink port and the other one using normal port.

If you need to check how straight cable looks like, it's easy. Both side (side A and side B) of cable have wire arrangement with same color.

Pin ID	Side A	Side B
1	Orange-white	Orange-white
2	Orange	Orange
3	Green-white	Green-white
4	Blue	Blue
5	Blue-white	Blue-white
6	Green	Green
7	Brown-white	Brown-white
8	Brown	Brown

12345678   12345678

Side A   Side B

2) Cross-over cable:

Sometimes you will use crossover cable, it's usually used to connect same type of devices. A crossover cable can be used to:

1) Connect 2 computers directly.
2) Connect a router's LAN port to a switch/hub's normal port. (normally used for expanding network)
3) Connect 2 switches/hubs by using normal port in both switches/hubs.
In you need to check how crossover cable looks like, **both side (side A and side B) of cable have wire arrangement with following different color** .

3) Roll-over cable:

Rollover cable (also known as a Yost **cable**) is a type of null-modem **cable** that is often used to connect a computer terminal to a router's console port.

Rollover Wiring Guide
568-B