**Task No. 1:** Define following network terminologies:

**Solution:**

**EIA/TIA 568A and 568B standards**

EIA/TIA 568A and 568B are wiring standards for Ethernet cables. They define the order in which the eight colored wires in an Ethernet cable are connected to the pins in an RJ-45 connector.

The only difference between the two standards is the placement of the orange and green pairs. The 568B standard is the most commonly used standard today.

**Color combination of straight and cross Ethernet cable**

A straight-through Ethernet cable is used to connect two devices that are not switches or hubs, such as a computer to a router. A cross-over Ethernet cable is used to connect two devices that are switches or hubs, or to connect a computer directly to another computer without using a switch or hub.

The color combination for a straight-through Ethernet cable is the same on both ends. The color combination for a cross-over Ethernet cable is different on each end.

**Unshielded Twisted Pair (UTP) & Shielded Twisted Pair (STP)**

Unshielded twisted pair (UTP) cable is the most common type of Ethernet cable. It is less expensive than shielded twisted pair (STP) cable, but it is also more susceptible to interference from other electronic devices.

STP cable is more expensive than UTP cable, but it is also more resistant to interference. It is often used in environments where there is a lot of electrical noise, such as factories and office buildings.

**Straight Through and Cross-over Ethernet Cable**

Straight-through and crossover Ethernet cables are two types of Ethernet cables that differ in the way that the wires are terminated at each end.

A straight-through Ethernet cable is used to connect two devices that are expecting the same type of signal, such as a computer to a switch or a switch to a switch.

A crossover Ethernet cable is used to connect two devices that are expecting different types of signals, such as two computers directly together without a switch.

**RJ-45 connector**

An RJ-45 connector is a type of connector that is used to connect Ethernet cables to devices. RJ-45 connectors have eight pins, which are numbered from 1 to 8.

The color combination of the wires in an Ethernet cable is determined by the wiring standard that is used. The most common wiring standard is the 568B standard.