



# BUBT

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**BANGLADESH UNIVERSITY OF  
BUSINESS AND TECHNOLOGY**

## Lab Report

Course Code: CSE 320

Course Title: Computer Networks Lab

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**Report number:** 01

**Report name:** Network Cabling.

**Objectives:**

The purpose of this lab was to learn about the common cable types used in networking, understand RJ45 connector, know about network cable connection.

**Theory:**

Network cables are used to connect and transfer data and information between computers, routers, switches and storage area networks. These cables are essentially the carrier or media through which data flows. There are several types of cable which are commonly used. In some cases, a network will utilize only one type of cable, other networks will use a variety of cable types. The type of cable chosen for a network is related to the network's topology, protocol, and size. Understanding the characteristics of different types of cable is necessary for the development of a successful network.

Some common network cables are:

1. Coaxial cable (**Use:** It is commonly used by cable operators, telephone companies, and internet providers.)
2. Unshielded twisted pair (**Use:** UTP cable is used not only for networking but also for the traditional telephone (UTP-Cat 1).)
3. Fiber optic (**Use:** Optical fiber is used by telecommunications companies to transmit telephone signals, Internet communication and cable television signals.)

Connector:

1. RJ45 connector

RJ45 is the most common twisted-pair connector for Ethernet cables and networks. RJ means “registered jack”, which is a standardized telecommunication network interface for connecting voice and data equipment to a service provided by a local exchange carrier or long-distance carrier. A RJ45 connector is a modular 8 position, 8 pin connector used for terminating Cat5e or Cat6 twisted pair cable.

## Network Cable connections:

### 1. Straight-Through cable connection

For this type of connection, we have to use same type of color code sequence in both sides.

### 2. Crossover cable connection

For this type of connection, we need to use color code sequence as like straight through in one side and we have to make some changes in the other side. We need to interchange 1 with 3 and 2 with 6.

## Figures:

### 1. Cable:

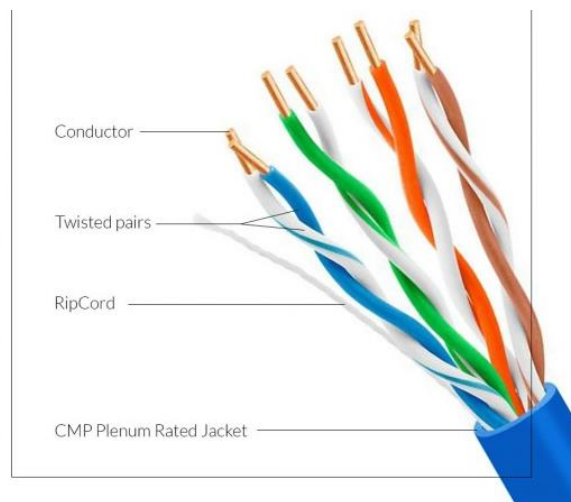


Figure: CAT5e Cable

### 2. Connector:



Figure: RJ45 Connector

### 3. Network Cable connections:

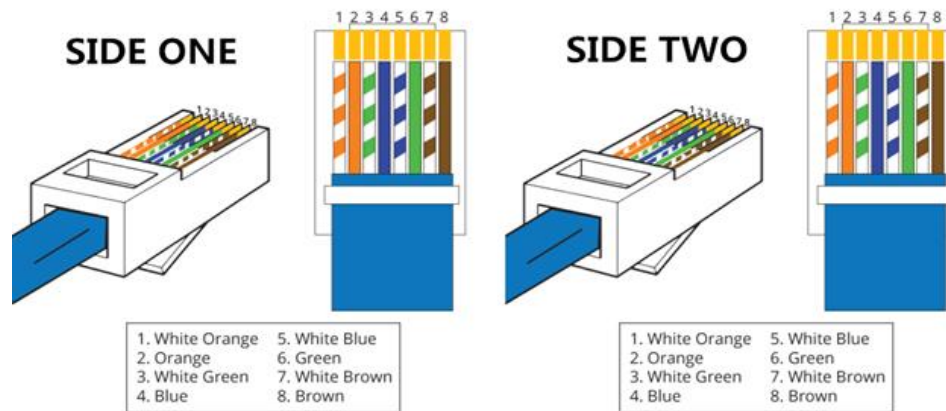


Figure: Straight-Through cable connection

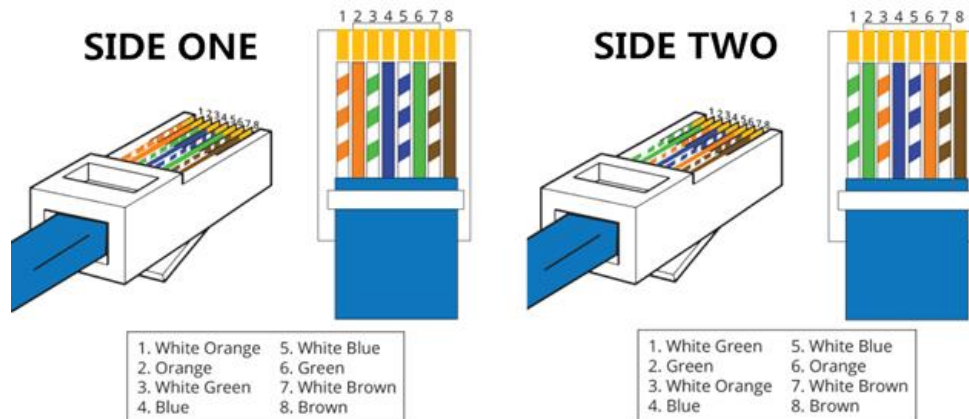


Figure: Crossover cable connection

### Conclusions:

The lab is conducted online so we didn't do anything practically. After this lab session, we gained some theoretical knowledge. We get to know about different types of network cables, UTP cable categories, about RJ45 connector, the connection-making tools, steps for making connections, and network cable connections. This lab helps us to understand network cabling easily.