



LAB2 -Straight through (straight forward) UTP cat5e cable

Objective:-

1. Making a straight forward UTP cat5e cable.
2. Testing the cable continuity.

Requirements:-

1. UTP cat5e cable.
2. RJ- 45 connectors.
3. Crimping tool.
4. Cat5 LAN tester.

Background:-

UTP cat5e cable is a 4-pair 8-wire cable where each wire has its own color. In this lab you are going to make a straight forward cable which means that the color on pin1 of the RJ-45 connector on one end is the same on pin1 of the other end RJ-45 connector, pin2 on both ends will also have the same color and so on till the eighth pin. There are two standards that can be followed to make wires arrangement, T568A and T568B. in this lab we will follow the T568B standard listed below:-

T568B standard

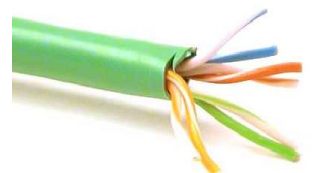
Pin No.	Pair N		κ/Rx
1	2	<p>T568B</p>	κ
2	2		κ
3	3		κ
4	1		κ
5	1		κ
6	3		κ
7	4		κ
8	4		κ
		Brown	Not used

Procedure

Step1:- Use the crimping tool to cut a proper length of the cable which will be used to make the straight forward cable.

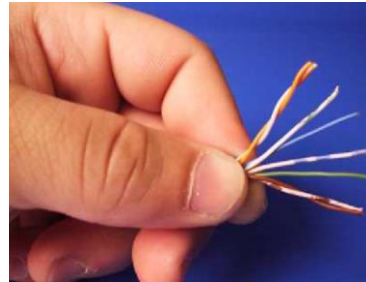
Step2:- Release approximately 5cm of the outer jacket from one end of the cable.

Step3:- Rearrange the four pairs according to the T568B standard.



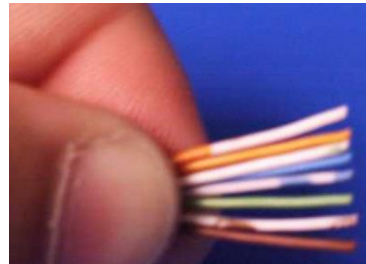
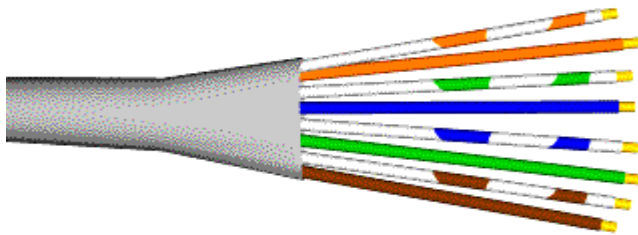


Step4:- Untwist each pair and rearrange the eight according to the T568B standard.



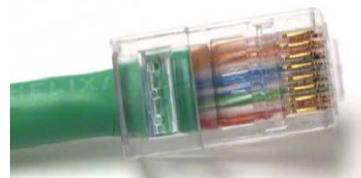
wires

Step5:- Organize and flatten the wires. Cut the wires so that the distance from the outer jacket is approximately 1.5-2 cm.



Step6:- Put the RJ-45 connector on the cable end so that the contacts being on the bottom and the white+orange cable being on the left of bottom of the connector.

Step7:- Push the RJ-45 connector slightly towards until you see the copper ends of the wires touching connector contacts. Make sure that the jacket of the inside the connector. Now push the cable firmly and down the connector by the crimping tool.



the wires
the RJ-45
cable is
crimp

Step8:- Repeat steps 2 through 7 to make the other end of the cable

Step9:- Inspect the cable visually and mechanically. Then test the cable for continuity using the tester.

Color Standard
EIA/TIA T568B

Ethernet Patch Cable



Discussion:-

- 1- Can all the 4-pairs in a UTP cable being practically used? Why?
- 2- Clarify the arrangement of pairs and wires, Tx/Rx, colors of the T568A standard.