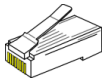
ELECTRICAL DEPARTMENT ENGINEERING

E 5124 – DATA COMMUNICATION

EXPERIMENT : 1(a.)
TITLE : **NETWORK CABLE-STRAIGHT CABLE**
OBJECTIVE : At the end of this of this experiment, student should be able to:
1. Make their own CAT5 twisted-pair network cable
2. Draw a diagram of straight cable

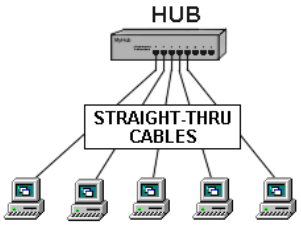
MATERIALS :

RJ 45 Connector *Stripper* *Cutter* *Crimper* *Cable Tester :* *UTP Category 5 cable*





THEORY : Straight-through network cable is just what the name implies, a cable that passes data straight through from one end to another. Straight-through cables are used for a variety of connections (e.g connecting a computer to a hub or switch, connecting a computer to a cable/ISDN/DSL modem and linking switches and hubs



together).

When connecting computers together with a hub or switch, "Straight Through" cable are used.

PROCEDURES:
1. Strips off about 1 inches of the plastic jacket off the end of the cable.
2. Spread the wires apart, arrange it according to the table below.

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

3. Insert the wires in RJ45 connector on keeping the wires arrangement.
4. Insert the jack into the crimper and squeeze the crimper tightly.
5. Repeat procedures 1 to 4 on the other side of cable.
6. Test the cable.

DISCUSSION:
1. Draw a diagram of a straight cable (Arrange the colour code).

Side A Tx (Transmitted)		Side B Rx (Received)

2. Discuss the safety procedures that should be taken in this experiment.

CONCLUSION:_____

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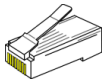
ELECTRICAL DEPARTMENT ENGINEERING

E 5124 – DATA COMMUNICATION

EXPERIMENT : 1(b.)
TITLE : **NETWORK CABLE-CROSS CABLE**
OBJECTIVE : At the end of this of this experiment, student should be able to:
1. Make their own CAT5 twisted-pair network cable
2. Draw a diagram of cross cable

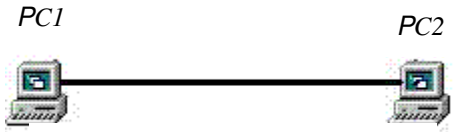
MATERIALS :

RJ 45 Connector *Stripper* *Cutter* *Crimper* *Cable Tester :* *UTP Category 5 cable*





THEORY : Cross cable can be used to directly connect two computers to each other without the use of hub or switch. The ends on a crossover cable are different from each others, whereas a normal "straight through" cable has identical ends.



CROSS CABLES

When connecting computers together with a hub or switch, "Straight Through" cable are used.

PROCEDURES:
3. Strips off about 1 inches of the plastic jacket off the end of the cable.
4. Spread the wires apart, arrange it according to the table below.

PIN ID	SIDE A	SIDE B
1	Orange/White	Green /White
2	Orange	Green
3	Green/White	Orange/White
4	Blue	Blue
5	Blue/White	Blue/White
6	Green	Orange
7	Brown/White	Brown/White
8	Brown	Brown

3. Insert the wires in RJ45 connector on keeping the wires arrangement.
4. Insert the jack into the crimper and squeeze the crimper tightly.
5. Repeat procedures 1 to 4 on the other side of cable.
6. Test the cable.

DISCUSSION:
1. Draw a diagram of a cross cable (Arrange the colour code).

Side A Tx (Transmitted)		Side B Rx (Received)

2. Differentiate between straight cable and cross cable.

CONCLUSION:_____

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