

## Computer Networks 1

### Lab 1

## Network Devices

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### **I. Objectives:**

- Get to know basic network devices
- Understand functions of network devices
- Able to connect different network devices together to form a simple network

### **II. Content**

#### **1. Get to know network devices:**

- ✓ Network Interface Card (NIC)
- ✓ Cables
- ✓ Hub
- ✓ Switches
- ✓ Routers
- ✓ Access Points
- ✓ Modems

#### **2. Understanding functions of network devices**

##### **a. Network Interface Card (NIC)**



NIC functions: translator that helps to convert data into digital signal

Code of NIC processors: \_\_\_\_\_

Check NIC of a computer, what is its MAC address? 98-28-A6-38-35-B9

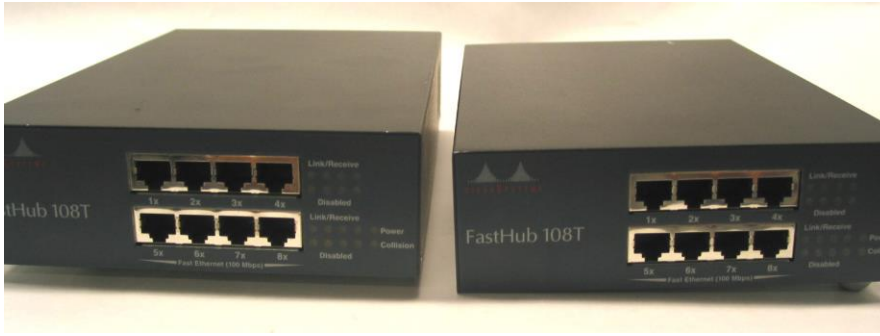


Cable to connect NIC to a network:

Type: RJ45

Standard: ethernet

## b. Hubs



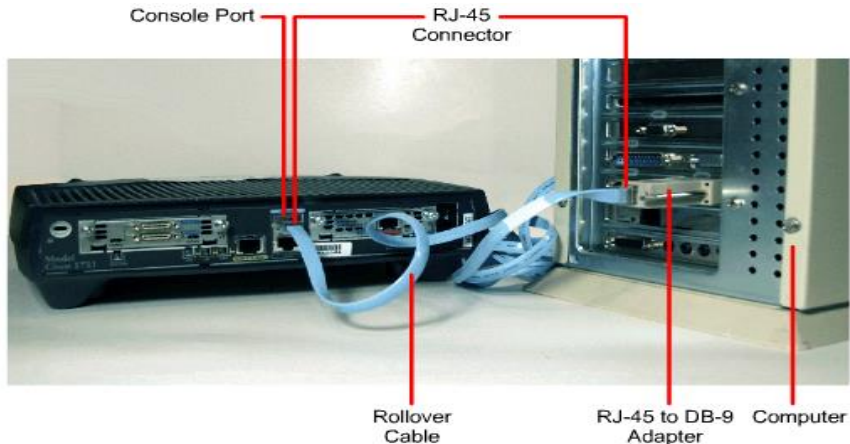
Roles of hub in a network: [allows](#)  
Main characteristics: [you to connect multiple PCs to a single network](#)  
Weaknesses of hub:  
Hub ports: [4/12 ports](#)

## c. Switches



Roles of switches in a network:  
Main characteristics of switches:  
Differences between hubs and switches:  
Weaknesses of switches:  
Switch ports:

#### d. Routers



Roles of routers in a network:

Main characteristics of routers:

Differences between routers and switches:

Router ports:

#### d. Access Points



Roles of access points:

Main characteristics of access points:

Access point's interfaces:

Compare access point and other networking devices mentioned above:

### e. Modem



Differentiate:

- Dial-up modem
- ADSL Modem
- Cable Modem

For each type of modem describe its roles and characteristics:

### 3. Connecting network devices:

**Identify the type of network cable can be used for below network connections:**

- a) Computer and hub \_\_\_\_\_
- b) Computer and switch \_\_\_\_\_
- c) Computer and router \_\_\_\_\_
- d) Computer hub and hub \_\_\_\_\_
- e) Hub and switch \_\_\_\_\_
- f) Hub and router \_\_\_\_\_
- g) Switch and switch \_\_\_\_\_
- h) Switch and router \_\_\_\_\_
- k) Router and router \_\_\_\_\_