

Experiment 3

Date: 30-7-24

Aim

→ Analyse the behaviour of network device using Cisco packet tracer simulator

Steps

1. → from network component base, click & drag & drop the below component

a) 4 generic PCs & one hub

b) 4 generic PCs & one switch

2. Click on connections:

a) click on Copper straight through cable

b) select on PC & connect to HUB, The link LED should glow in green

c) Similarly connect 4 PCs to the switch using Copper straight through cable

3. Click on the PCs connected to HUB

then click 'desktop' then click IP configuration

Enter IP address on IPv4 address box then close

a) click on PDU (message icon) from common tool bar

~~drag & drop it on one of PC & drop on another PC~~

4. Observe the flow of PDU from Source to destination by clicking simulation & on right bottom

5. repeat the same for PCs connected to Switch

6. Observe

Observation

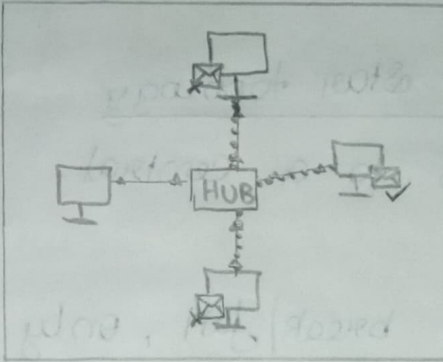
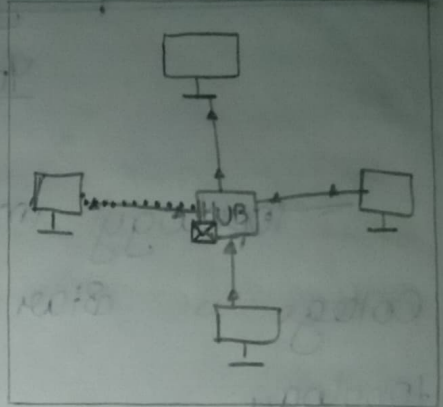
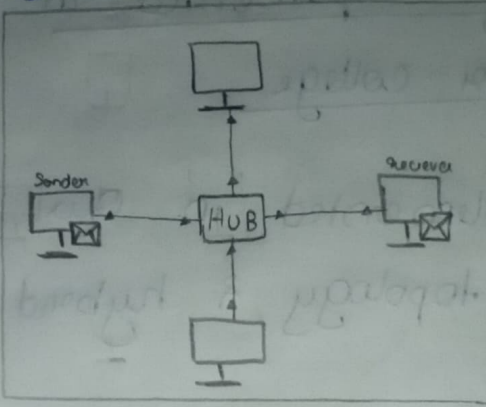
Hub

When packet is sent from one PC, the hub broadcast the packet to all connected PCs. regardless of intended destination. → this means all PCs receive packet but only intended recipient process it, others ignore it

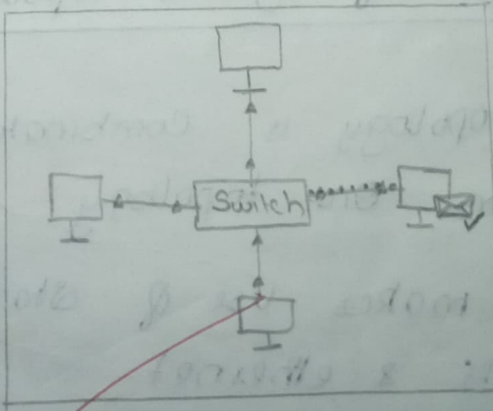
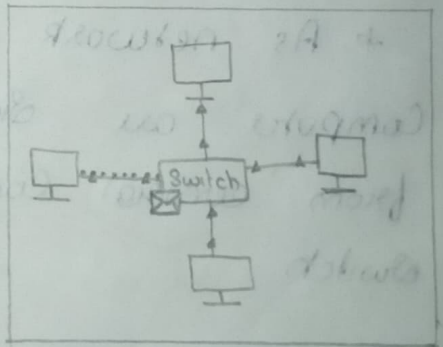
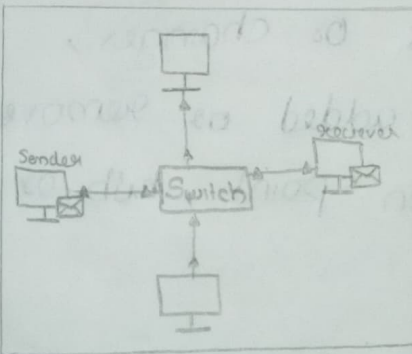
Switch

Switch uses MAC address to identify devices. When a packet is sent from one PC, the switch checks the destination MAC address and forward the packet only to the port associated with that address.

Hub



Switch



Network topology implemented in Your college

→ topology implemented in our college is star topology & hybrid topology

Characteristics of star topology

- * all cable runs to a central connection point

- * if one cable break/fail, only computer connected to that cable is unable to use the network

- * As network grows or changes, computer are simply added or removed from central connection point, hub or switch

Characteristics of hybrid topology

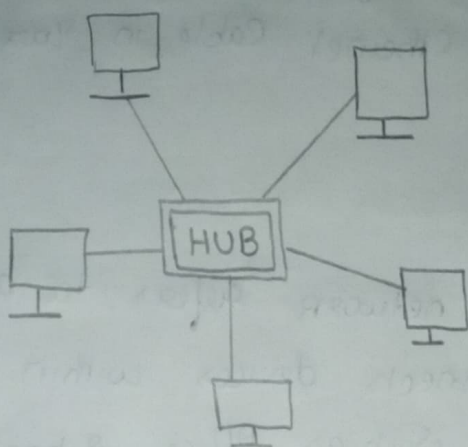
- * hybrid topology is combination of more than one topology

- * hybrid makes use of standard such as wifi & ethernet

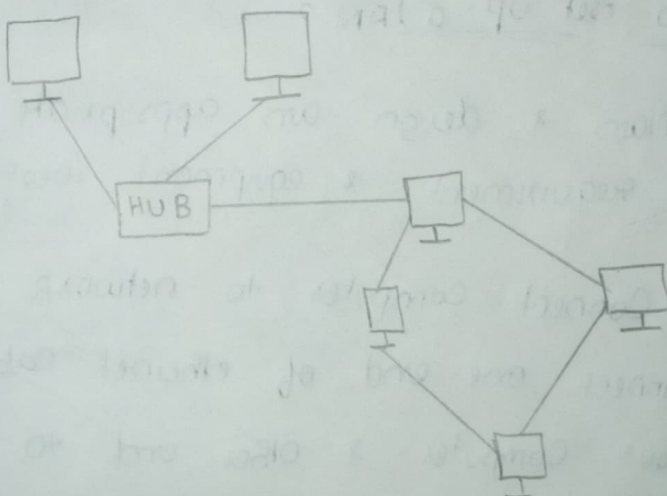
- * The hybrid topology has different branches & each as its unique design

~~The first~~

Star topology



Hybrid topology



~~8~~ ~~30/7/24~~

Result

~~Thus~~ successfully studied the packet
traces tool and analysed the behaviour
of network