MAH-CET 2024 FOR

BCA BBA BBM BMS

JOIN US NOW

JOIN US NOW

CRASH COURSE

DAY - 36

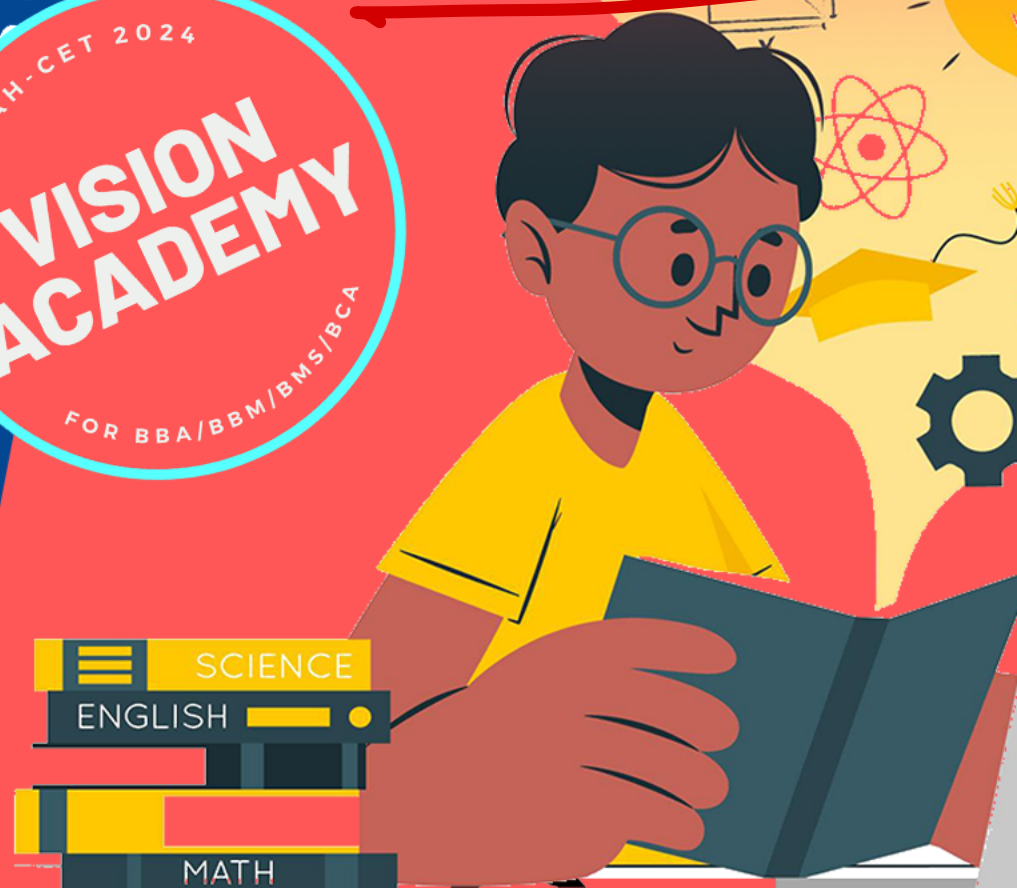
COMPUTER

MAH-CET 2024

VISION ACADEMY

FOR BBA/BBM/BMS/BCA

DATABASE & NETWORKING



VISION ACADEMY

LEARN BETTER

YOUR CAREER GUIDE

TOTAL QUESTIONS TODAY: 15

FOR MORE UPDATES

UPDATESTODAY.IN

sub

Subscribe

VISION ACADEMY

DOWNLOAD TODAY'S LECTURE NOTES & WORKSHEET

JOIN US ON WHATSAPP

Description

FOR MAH-CET 2024 FOR BBA/BMS/BBM/BCA

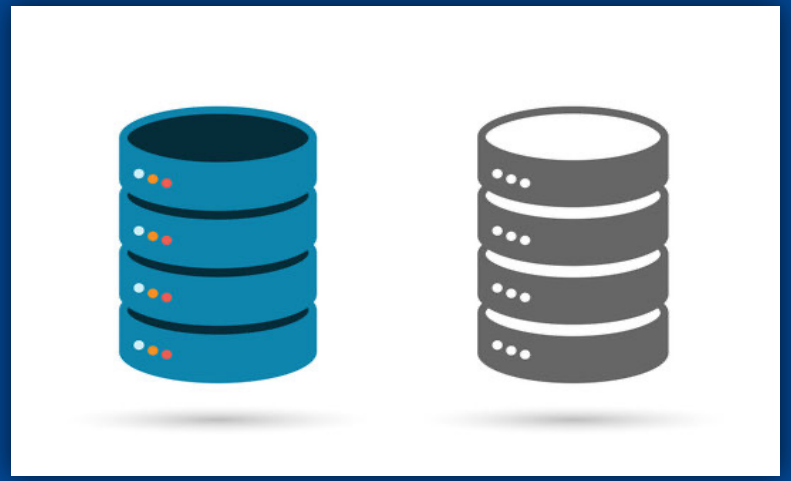
JOIN US ON TELEGRAM

FOR MAH-CET 2024 FOR BBA/BMS/BBM/BCA

Database

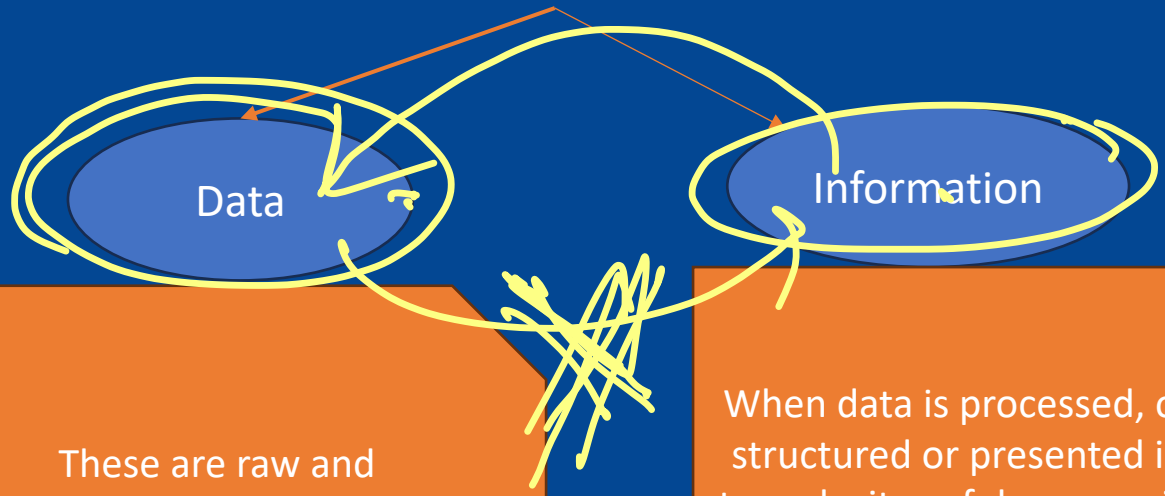
Information

A Database is a collection of logically related information in an organized way so that it can be easily accessed, managed and updated.



Fundamentals of Database

For defining database, two terms, which are used frequently with database, should be known as



These are raw and unorganized facts that need to be processed.

e.g. A student's test score is one piece of data.

When data is processed, organized, structured or presented in context to make it useful or meaningful, it is called information.

e.g. The class's average score is the information that can be concluded from the given data

Component of a Database

A database consists of several different components. Each component listed, is called an object.

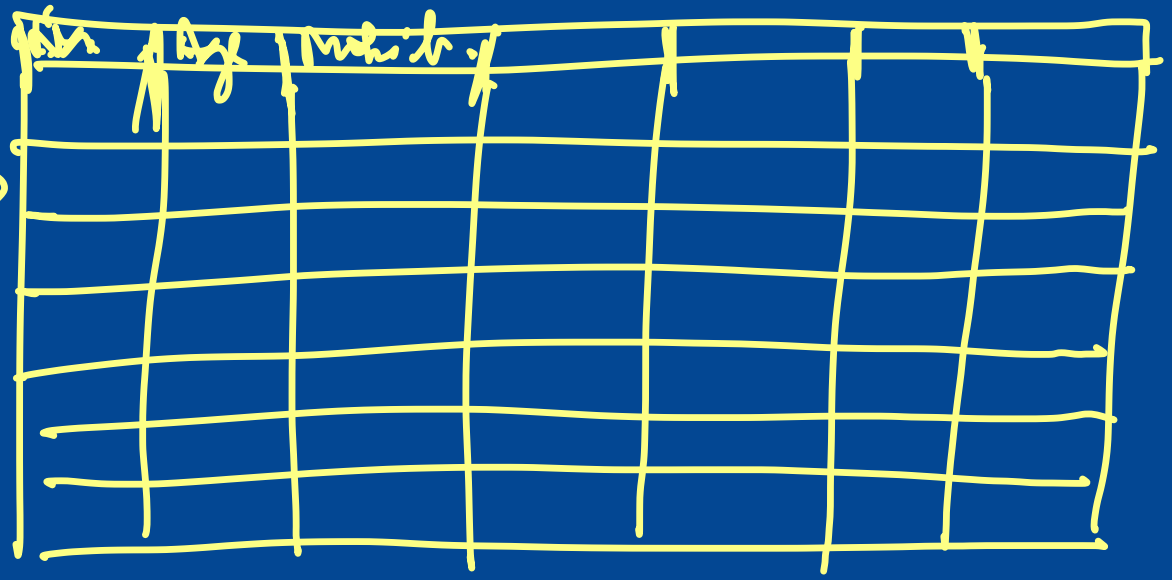
1. Tables
2. Queries
3. Forms
4. Reports

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

Tables: Database to store

These are the building blocks or relation of any relational database model where all the actual data is defined and entered. Different types of operation are done on the tables such as storing, filtering. retrieving and editing of data.

Programming



MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

Queries :

These are basically questions based on the data available in a database. A query consists of specifications indicating which fields, records and summaries a user wants to fetch from a database. Queries allow you to extract data based on the criteria that you define.

Forms : # Entry point to Users

Like tables, forms can be used to view and edit your data. However, forms are typically used to view the data in an underlying table one record at a time.

e.g. A user can create a data entry form that looks exactly like a paper form. People generally prefer to enter data into a well-designed form, rather than a table.

Google forms

entry

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

Reports :

Access data from DB

Export → Report

When you want to print those records which are fetched from your database, design a report. ~~Access even has a wizard to help produce mailing labels.~~

MS Access

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

Database Management System

DBMS

A DBMS is a collection of interrelated data and a set of programs to retrieve data from a database. It is an organised collection of data viewed as a whole, instead of a group of separate unrelated files.

The primary goal of DBMS is to provide an environment that is both convenient and efficient for user to store and retrieve database information.

Example: MySQL, Oracle, FoxPro, dBASE, SyBase, MS-Access.

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

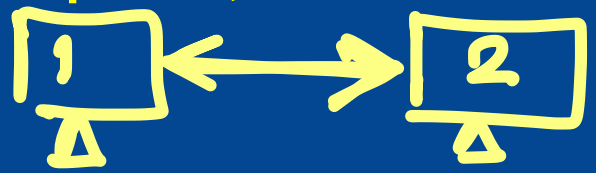
Application of DBMS

1. **Banking** For customer information, accounts, loans and other banking transactions.
2. **Reservation** For reservation and schedule information.
3. **Universities** For student information, course registration, grades etc.
4. **Credit Card Transaction** For purchase of credit cards and generation of monthly statements
5. **Telecommunication** For keeping records of calls made, generating monthly bill, etc.
6. **Finance** For storing information about holdings, sales and purchase of financial statements.
7. **Sales** For customer, product and purchase information.

Computer Network

Internet

A computer network is a collection of two or more computers, which are connected together to share information and resources.



It is a combination of hardware and software that allows communication between computers over a network.

The computers may be connected via any data communication link, like wires, cables, satellite links and other communication media.

Network of networks

Type of Computer Network

1. LAN
2. WAN
3. MAN
4. PAN
5. VPN

Local Area Network (LAN)

LAN is a small and single-site network. A LAN connects network devices over a relatively short distance such as home, office, buildings, school may be within a building to 1 km.

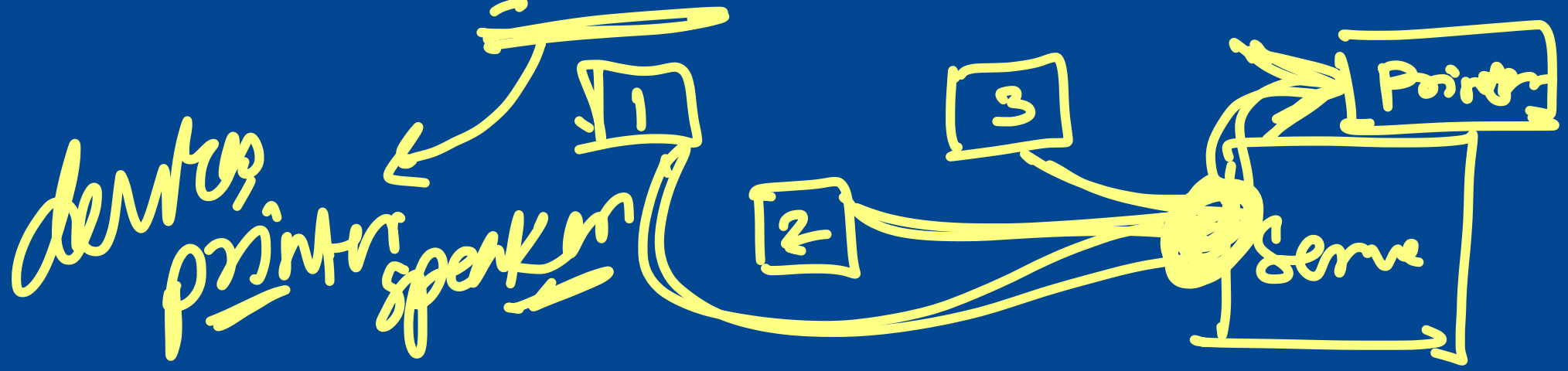
All the terminals are connected to a main computer called server.

On most LANs, cables are used to connect the computers.

Data transfer rate in LAN is of the order 10 to 100 mega ~~bits per second~~. (Mbps).

10-100

LAN provides a sharing of peripherals in an efficient or effective way.

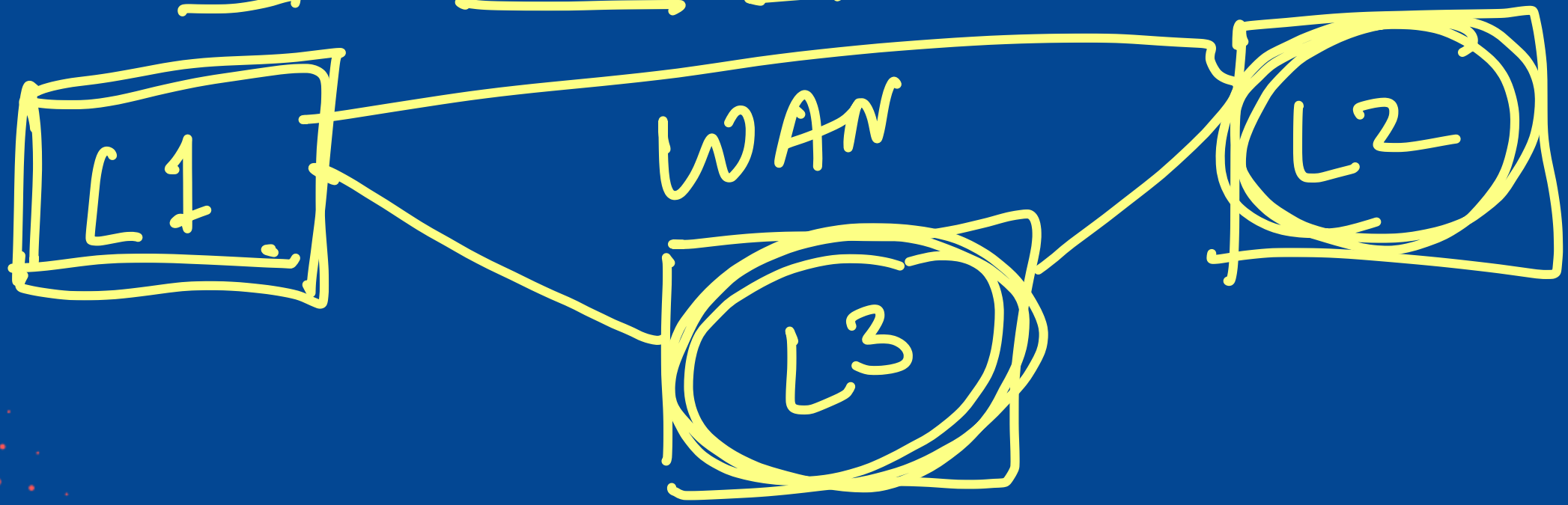


MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

Wide Area Network (WAN)

A WAN is a geographically dispersed collection of LANS. A WAN like the internet spans most of the world. A network device called a router connects LANs to a WAN.

These kinds of networks use telephone lines, satellite links other long-range communication technologies to connect.



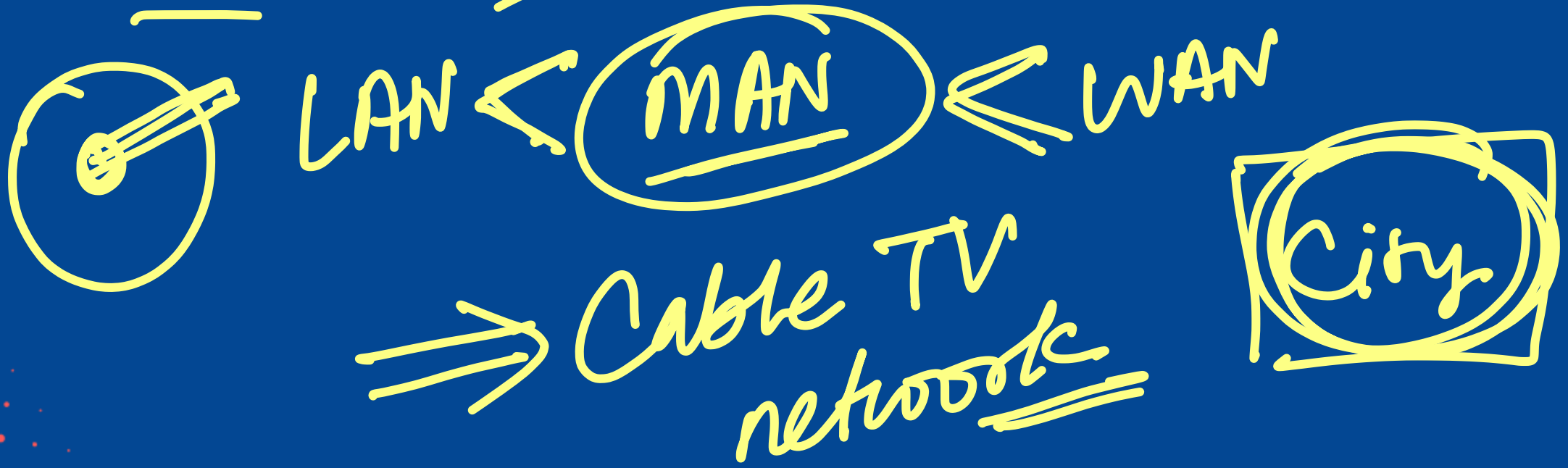
MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

Metropolitan Area Network (MAN)

It is a data network designed for a town or city. It connects an area larger than a LAN, but smaller than a WAN, such as a city, with dedicated or high performance hardware.

Its main purpose is to share hardware and software resources by the various users. Cable TV network is an example of metropolitan area network.

The computers in a MAN are connected using coaxial cables or fiber optic cables.



MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

Virtual Private Network (VPN)

A Virtual Private Network (VPN) is a technology that is gaining popularity among large organizations that use the global Internet for both intra-and inter-organization communication, but require privacy in their intra-organization communication.

VPN is a network that is private but virtual. It is private because it guarantees privacy inside the organization.

It is virtual because it does not use real private WANs; the network is physically public but virtually private.

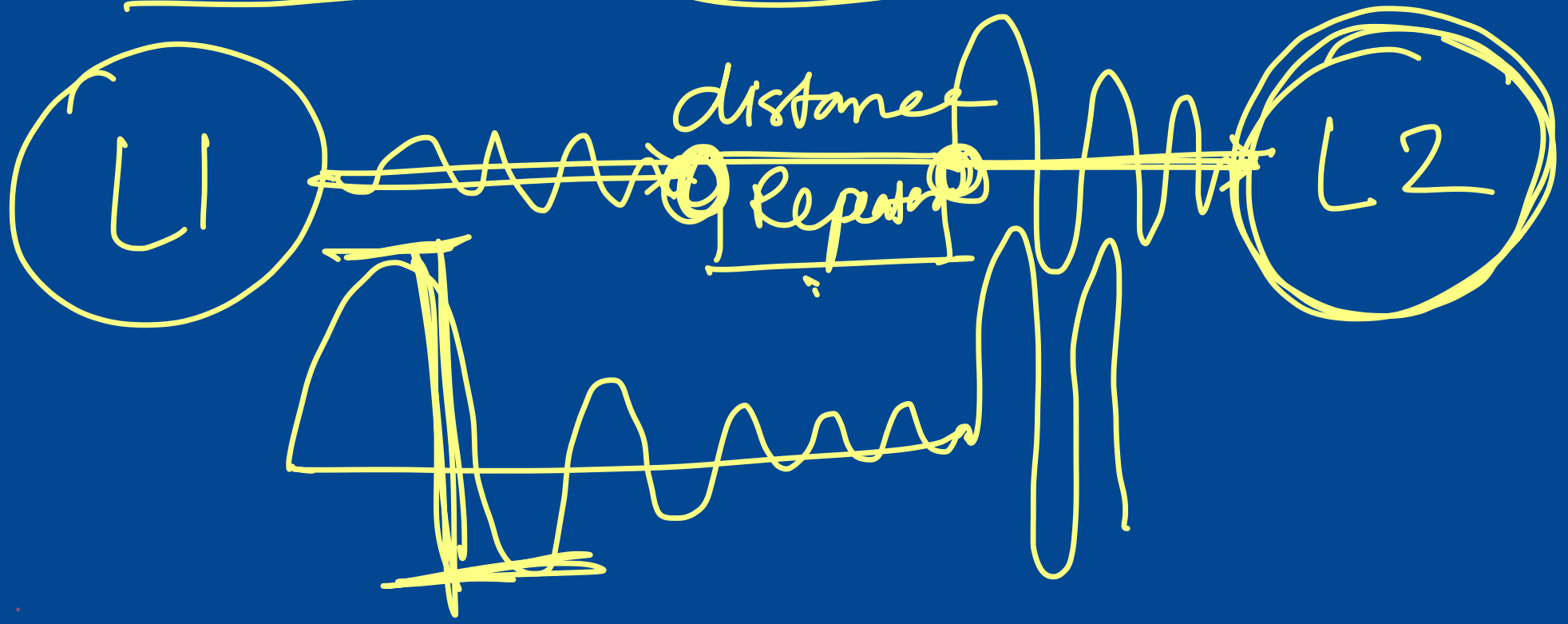
Network Devices

Network devices are required to amplify the signal to restore the original strength of signal and to provide an interface to connect multiple computers in a network. There are many types of network devices used in networking.

1. Repeater
2. Hub
3. Router
4. Modem

Repeater

A repeater is a device that operates only on the physical layer of OSI model. Repeaters have two ports and can connect two segments of a LAN. It amplifies the feable signals when they are transported over a long distance so that the signal can be as strong as the original signal. A repeater boosts the signal back to its correct level.

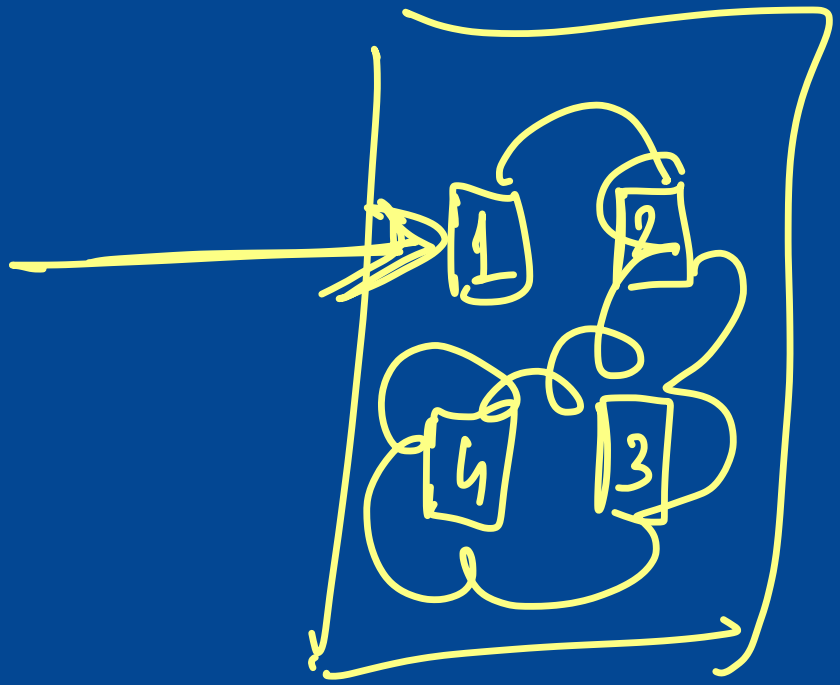


MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

Hub

Repeator (multiple ports)

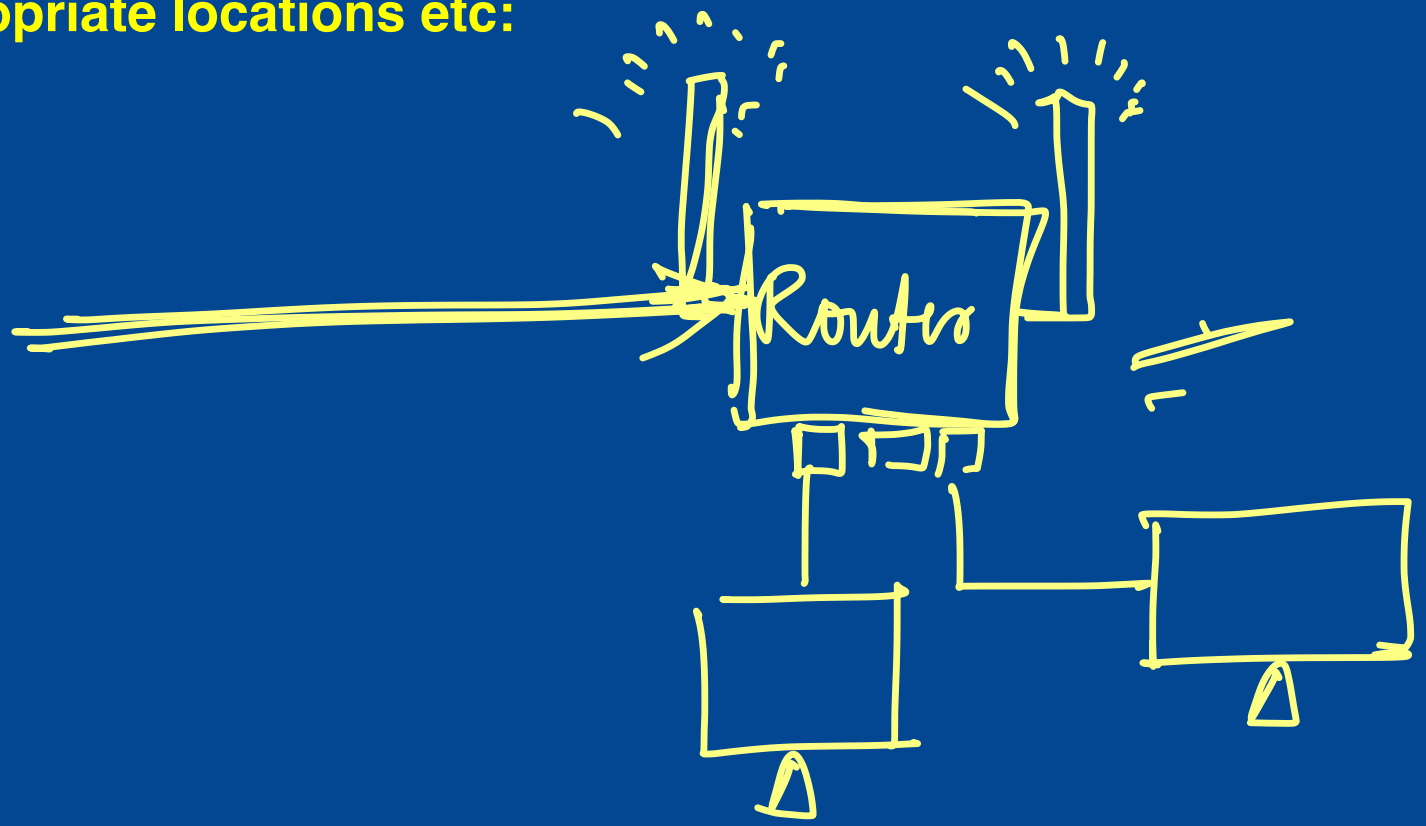
Hub is like a repeater with multiple ports used to connect the network channels. It acts as a centralized connection to several computers with the central node or server. When a hub receives a packet of data at one of its ports from a network channel, it transmits the packet to all of its ports to all other network channel.



MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

Router

Router is a hardware device which is designed to take incoming packets, analyze the packets, the moving packets to another network, converting the packets to another network interface, dropping the packets, directing packets to the appropriate locations etc:



MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

Modem

digital ⟷ analog

Modem is a device that converts digital signal to analog signal (modulator) at the sender's site and converts back analog signal to digital signal (demodulator) at the receiver's end, in order make communication possible via telephone lines. A MODEM is always placed betweeen® a telephone line and a computer.

MODEM

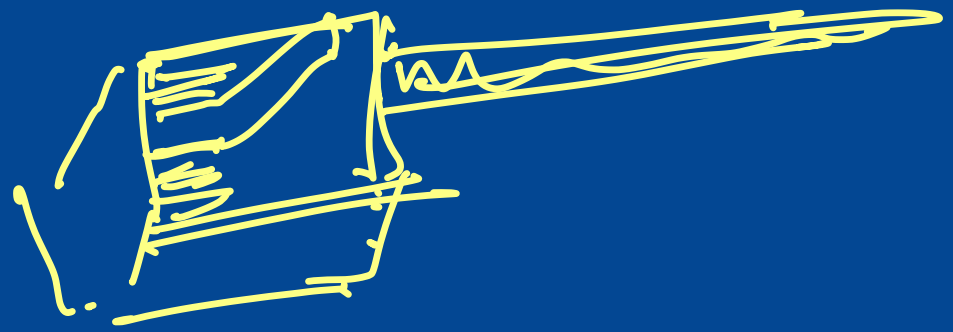
Modulator Demodulator

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

RJ45 Connector

RJ45 stands for Registered Jack-45. It is an eight wire connector. RJ45 connector is used to connect computers onto a Local Area Network (LAN). It is commonly used in telephony applications and networking.

It is also used for serial connections.



MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

Network Topology

types of network topology.

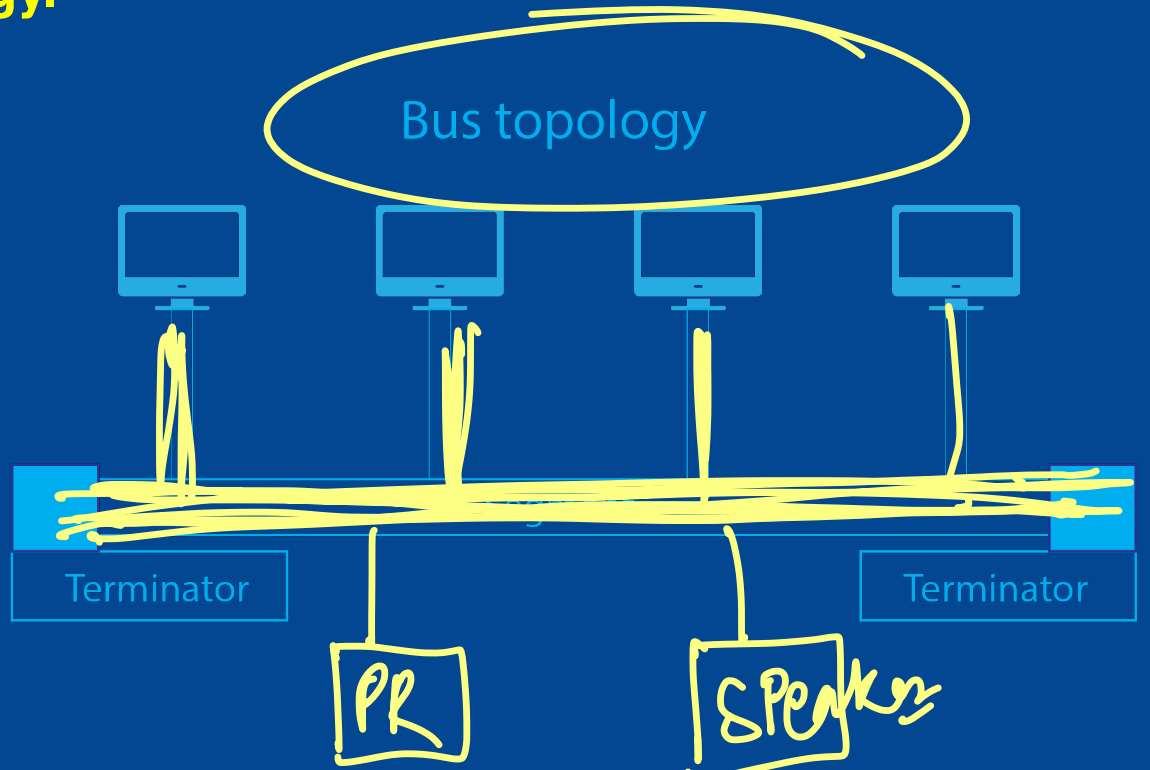
- The term 'topology refers to the way a network is laid out, either physically or logically.
- Topology can be referred as the geometric arrangement of a computer system.
- Each computer system in a topology is known as node.

Types of Topology

1. Bus Topology
2. Ring or Circular Topology
3. Star Topology
4. Mesh Topology
5. Tree Topology

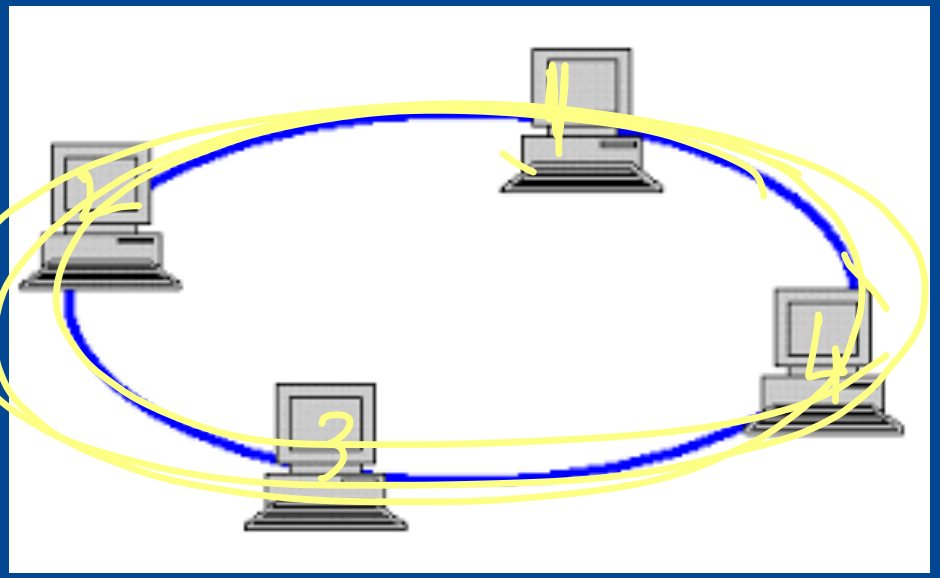
Bus Topology

A bus topology is such that there is a single line to which all nodes are connected. It is usually used when a network installation is small, simple or temporary. In bus topology, all the network components are connected with a same (single) line. Ethernet is commonly well protocol in networks connected by bus topology.



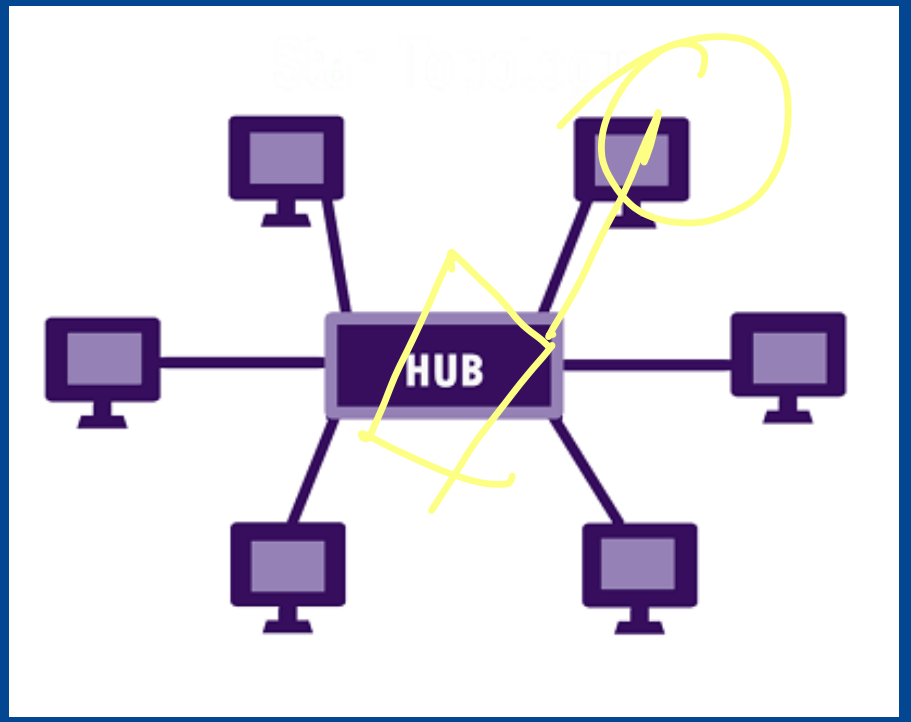
Ring or Circular Topology

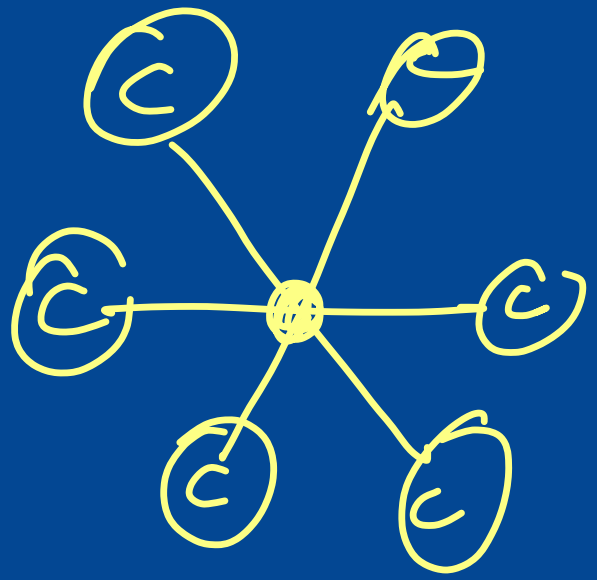
Ring topology is a type of network configuration where devices are connected in a circular manner, forming a closed loop. In this setup, each device is connected to exactly two other devices, creating a continuous pathway for data transmission.



Star Topology

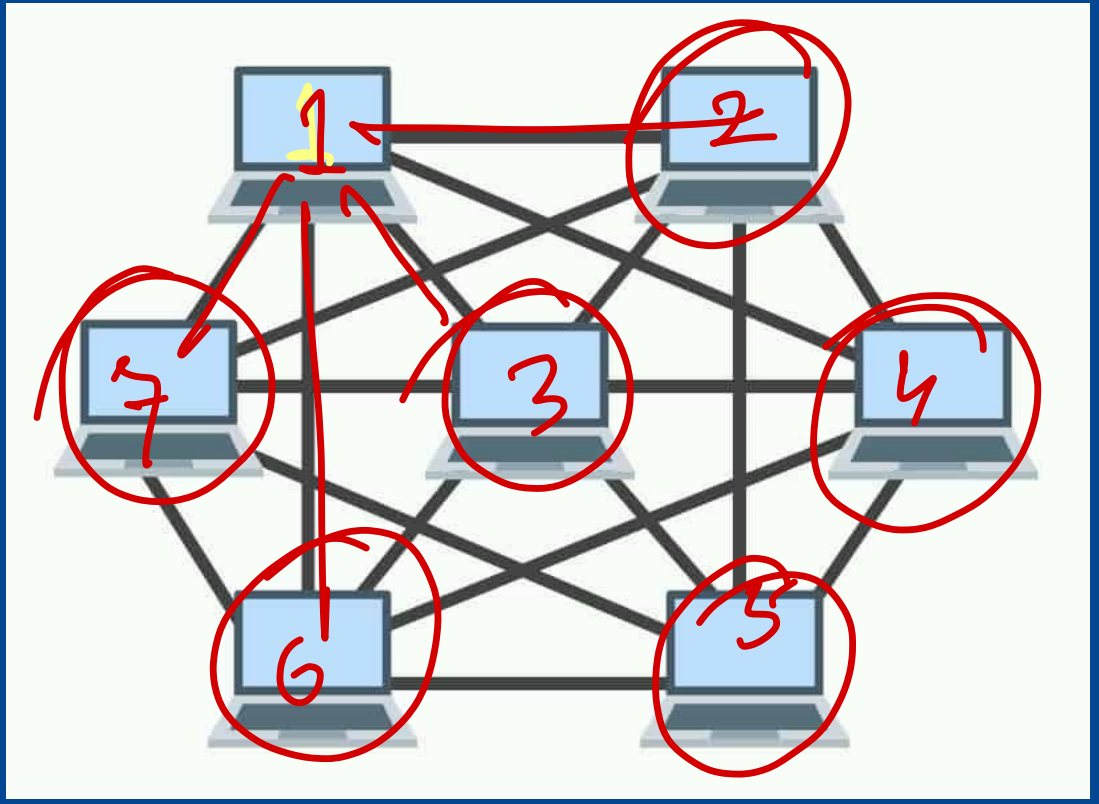
A Star topology is a type of network topology in which all the devices or nodes are physically connected to a central node such as a router, switch, or hub. The central node (hub) acts as a server, and the connecting nodes act as clients.





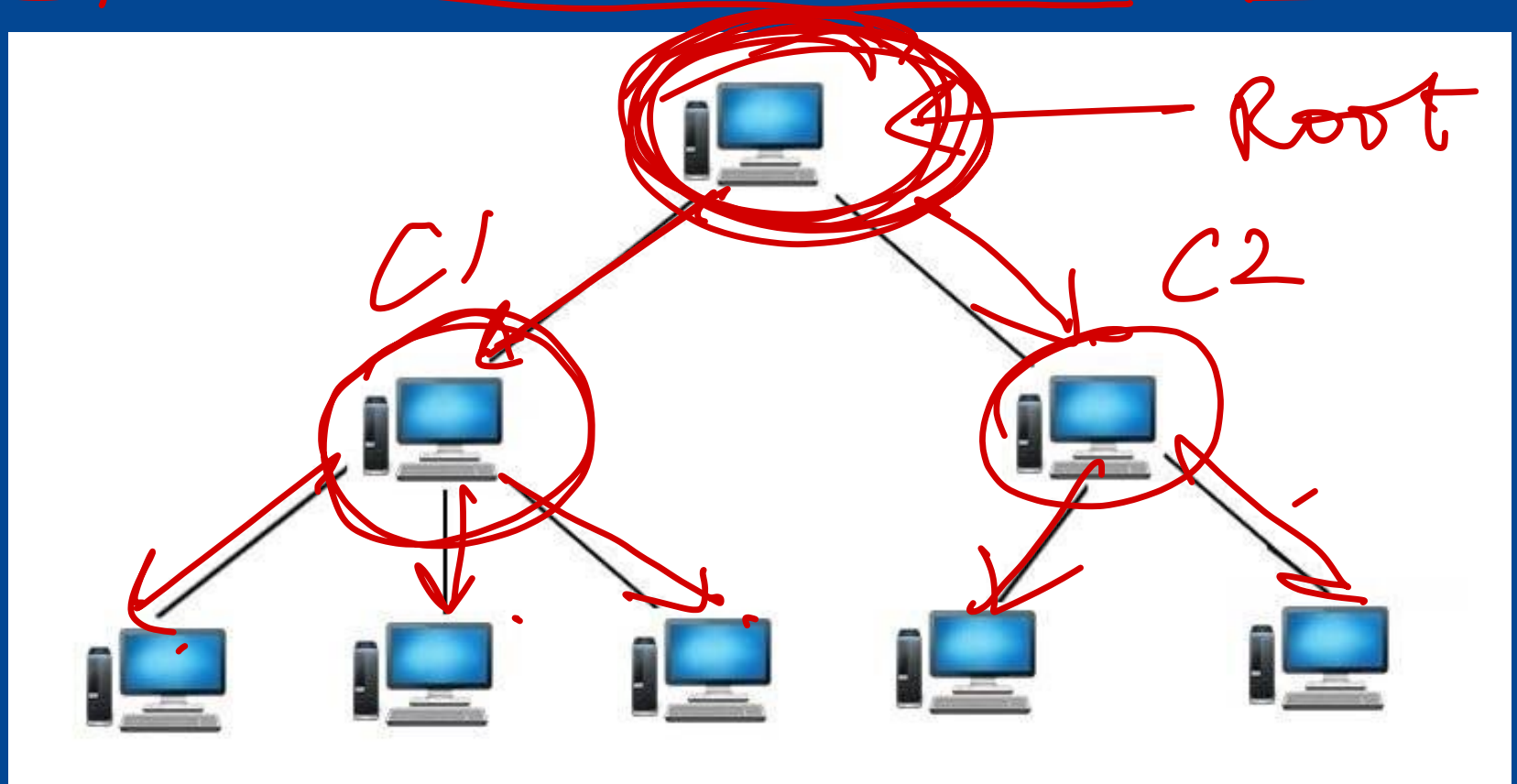
Mesh Topology

Mesh topology is a network configuration where devices are interconnected in a decentralized manner. Instead of relying on a central hub or switch, each device connects directly to multiple other devices, forming a mesh-like structure.



Tree Topology

In networking, tree topology is a structure where devices are connected hierarchically. It resembles a tree with a root node and various branches. The root node is connected to multiple levels of child nodes, forming a hierarchy.



MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

database

1. A computer checks the_____ of username and password for a match before granting access.

A. Website
B. Network
C. Backup file
D. Database

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

2. A _____ is a collection of data that is stored electronically as a series of records in a table.

A. Spreadsheet
B. Presentation
C. Database
D. Web page

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

3. A collection of interrelated records is called a

A. Utility file
B. Management information system
C. Database
D. Spreadsheet

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

4. Items such as names and addresses are considered as

A. Input
B. Data
C. Output
D. Records

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

5. The database stores information in

A. Rows and Columns
B. Blocks
C. Tracks and sectors
D. All of these

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

6. In a relational database, a data structure that organises the information about a single topic into rows and columns, is

A. Block
B. Record
C. Tuple
D. Table

D

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

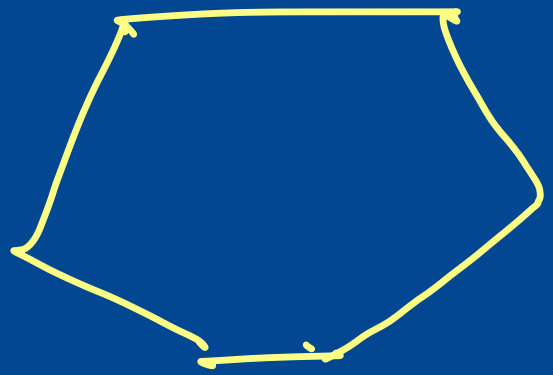
6. In a relational database, a data structure that organises the information about a single topic into rows and columns, is

A. Block
B. Record
C. Tuple
D. Table

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

7. Geometric arrangement of devices on the network is called

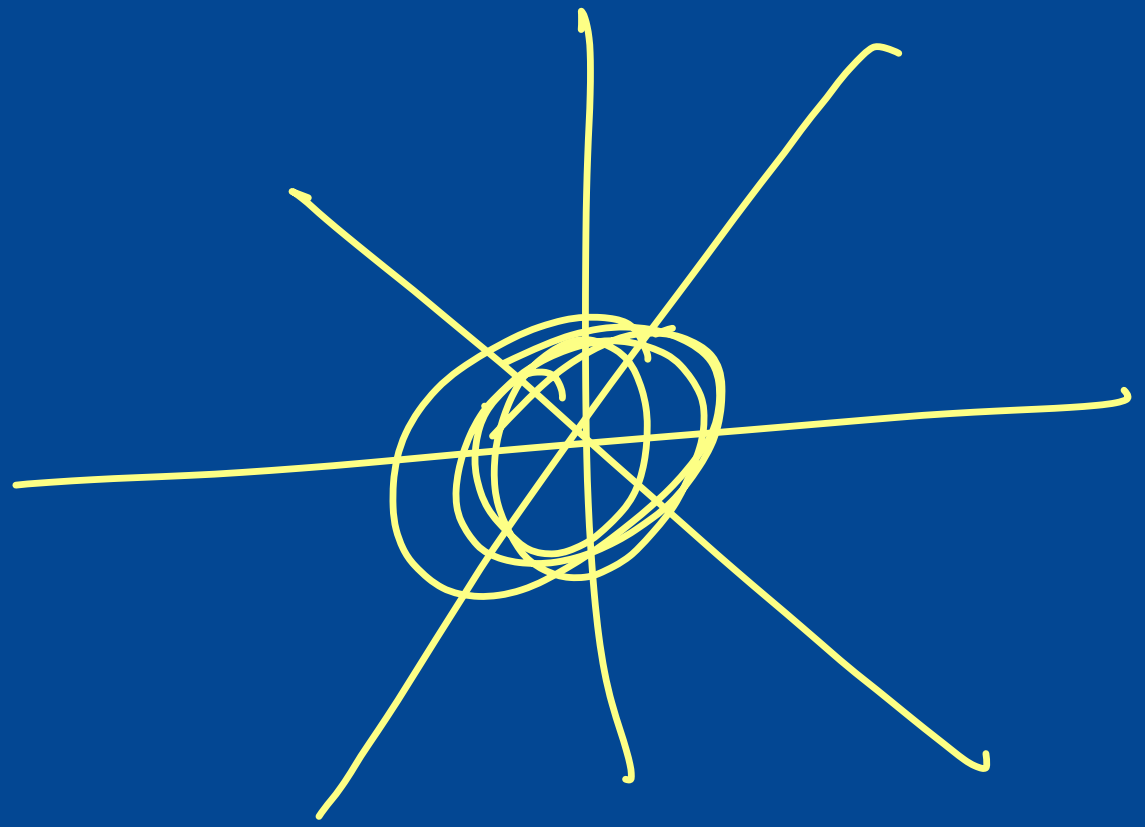
A. topology
B. media
C. protocols
D. LAN



MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

8. Hub is associated with star network.

A. mesh
B. bus
C. ring
D. star



MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

9. The advantage of LAN is _____

A. sharing peripherals
B. backing up your data
C. saving all your data
D. accessing the web

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

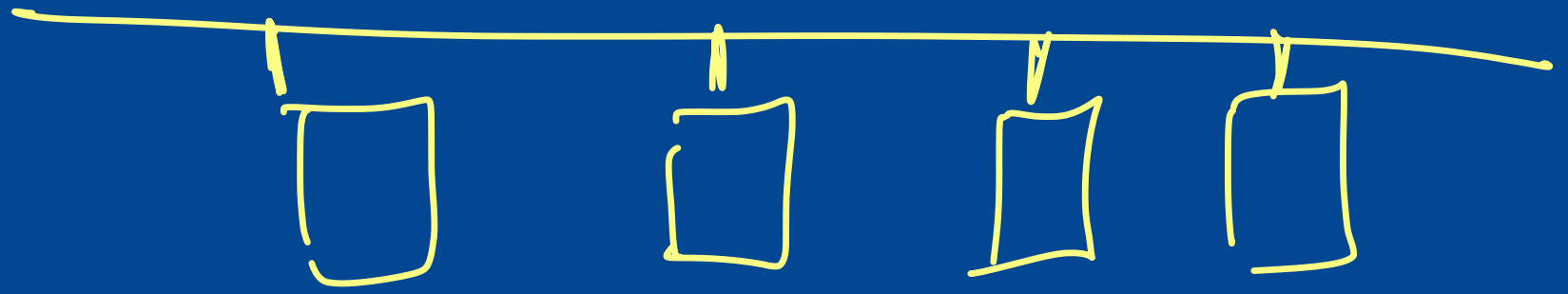
10. Which type of network would use phone lines?

A. WAN
B. WWAN
C. LAN
D. None of these

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

11. Network components are connected to the same cable in the ..... topology.

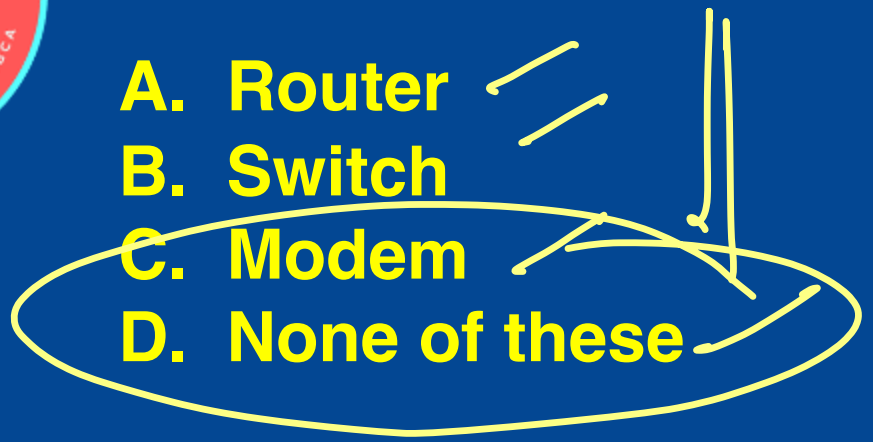
A. star
B. ring
C. bus
D. mesh



MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

12. Which of the following is not a network device?

A. Router
B. Switch
C. Modem
D. None of these



MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

13. What is the function of a modem?

A. Encryption and decryption
B. Converts data to voice
C. Converts analog signals to digitals and vice-versa
D. Serve as a hardware anti-virus

MAH-CET 2024
VISION ACADEMY
FOR BBA/BBM/BMS/BCA

14. What is used to find and select data from a database?

A. Table
B. Cell
C. Query
D. Form

MAH-CET 2024 VISION ACADEMY FOR BBA/BBM/BMS/BCA

15. To which of the following the term "DBA" referred?

A. Data Bank Administrator
B. Database Administrator
C. Data Administrator
D. None of the above

Job Role

16

MAH-CET 2024 FOR

BCA BBA BBM BMS

JOIN US NOW

JOIN US NOW

DAY - 36

ENGLISH

SPOTTING ERRORS

CRASH COURSE

MAH-CET 2024

VISION ACADEMY

FOR BBA/BBM/BMS/BCA

DOWNLOAD TODAY'S LECTURE NOTES & WORKSHEET

JOIN US ON WHATSAPP

JOIN US ON TELEGRAM

FOR MAH-CET 2024 FOR BBA/BMS/BBM/BCA

FOR MAH-CET 2024 FOR BBA/BMS/BBM/BCA