Introduction to DBMS

data Base management system

data

Base

↳ data refers to raw facts, information about something

Algoprep

student employees Payment batch

social media ads → how its work.

analytical data

Military Base :-

A Place where military equipments are stored.

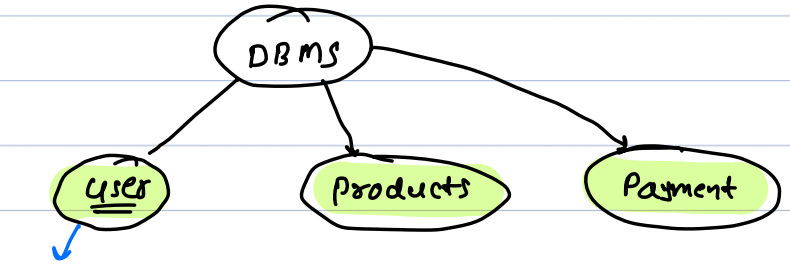
data base : →

A Place where related data is stored.

↳ collection of related data.

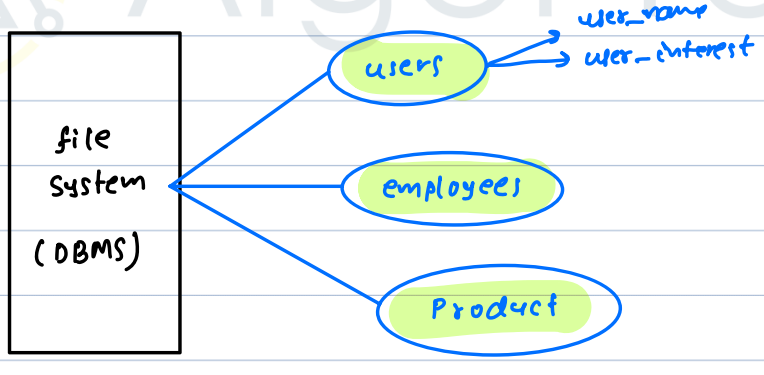
data base mangement system

it is software system that enables user to define, create and maintain data base.



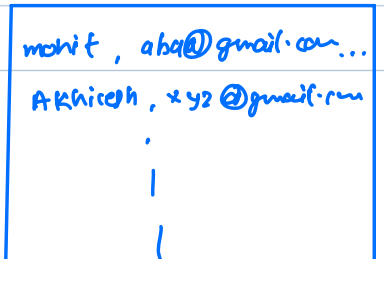
user name, user Add

file system can behave like DBMS.

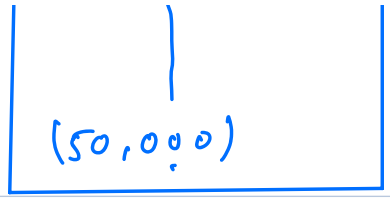


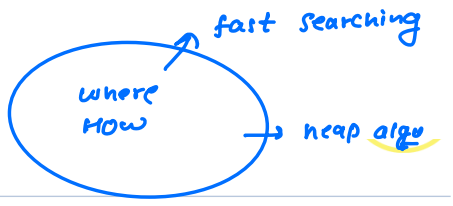
↳ it stored data in hierorichal form

① retrival of data is tough.

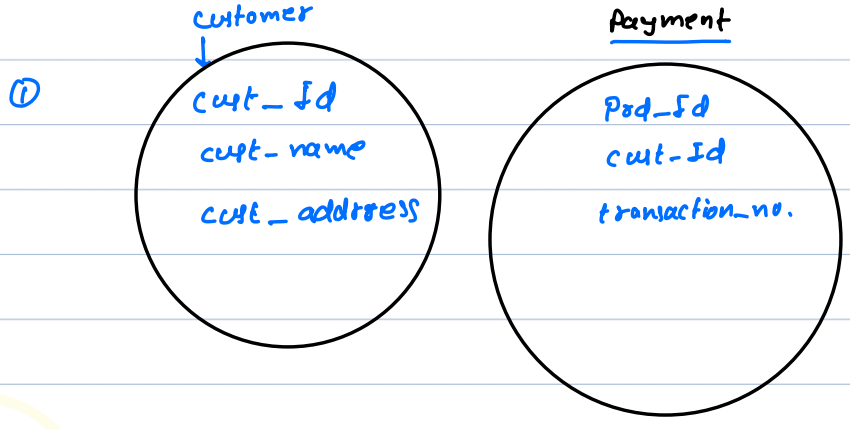


searching O(n)
Linear search

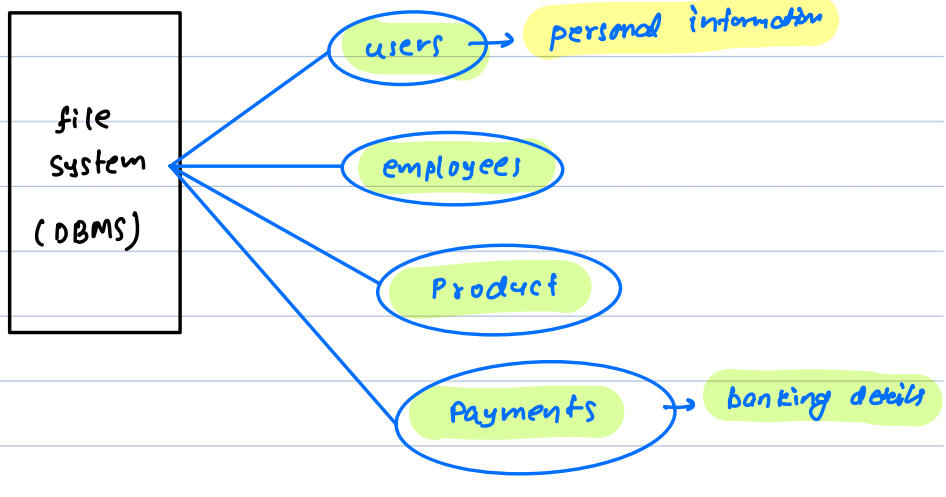




② data redancacy and inconsistance:



③ Security and Access control



④ Concurrency Control :-

dBMS → manages concurrent access to data by multiple users. or transaction

types of data bases

Relational data Base (MySQL) (SQL)

relation

///

table →

customer table

(database)

Structured Query Language

columns / field / Attributes ↑

	cust-Id	cust-name	mobile no	address
p1 →	1	mayur	9788..	abc
p2 →	2	Pawan	2943..	xy2 → row / records / tuples
p3 →	3	Amrendra	8797..	axy
	4			
	5			
	6			

break till 9:20

① Relation / table

② Attributes / columns → characteristics of the entities

③ tuples / rows → it represents individual instance of data of entity.

④ degree :- number of attributes / columns.

⑤ cardinality :- number of tuples.

Properties / rules of relation / table

① each row is unique.

(at least one attribute should be distinct)

cust-Id	cust-name	mobile no	Address
1	mayur	9788..	abc
2	Prajwal	2943..	xyz
3	Amrendra	8792..	axy
4	mayur	9788..	abc
5			
6			

② each cell can only contain a single value.

cell can't contain any list / collection of data

cust-Id	cust-name	mobile no	Address
1	mayur	9788..	abc
2	Prajwal	{2943.., 3492, 7453}	xyz
3	Amrendra	{8792.., 9345, 2387}	axy
4	mayur	9788..	abc
5			
6			

mobile - no

cust-ID	mobile no
2	2943
2	3492

2	7453
3	8792
3	9345 2317
4	9788

(3) order of the columns shouldn't matter.

List<Customer> ... = Select * from cust_table

= Select cust_name, cust_addr

(4) order of the rows shouldn't matter.

{2, 4, 17, 5, 8} = {5, 8, 17, 4, 2}