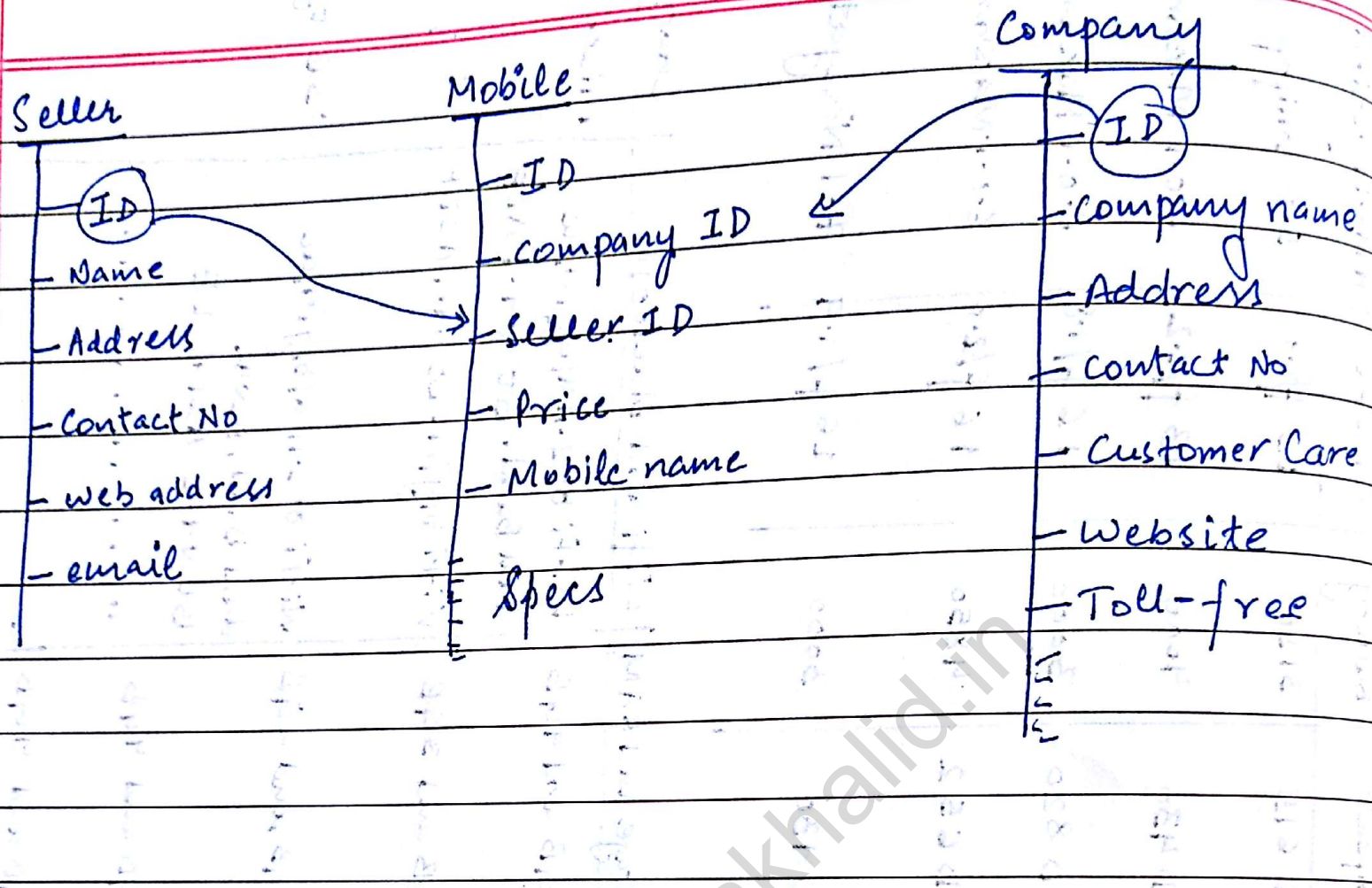
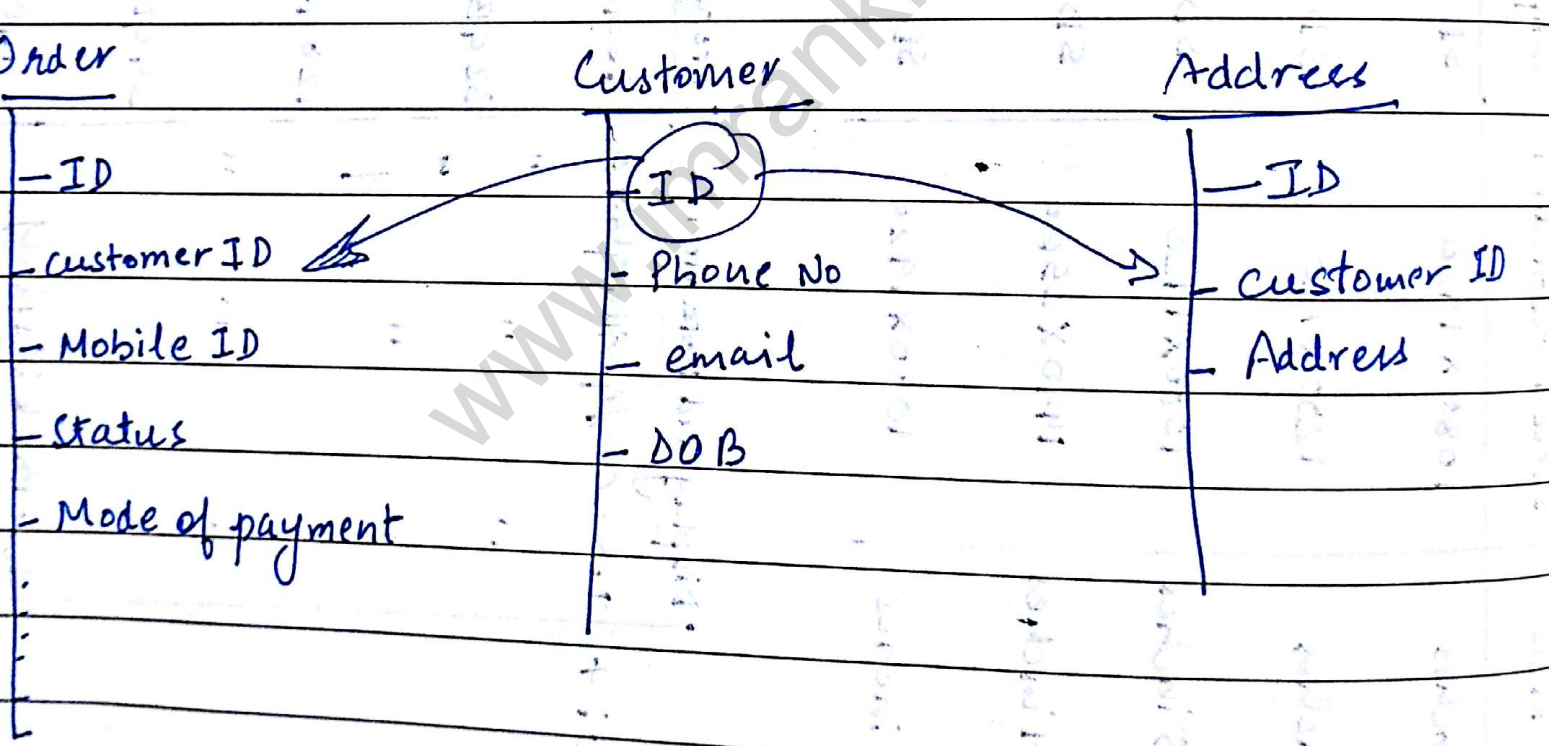
Table Mobile

Sr	Name	Model No.	Brand Name	Screen size	Screen resolution	Chipset	Battery (mAH)	Camera (MP)	Android version	Network
	Mi4i	1C001560	Xiaomi	5 inches	1080X1920	SD 615	3120	13 f/2.0	5.0 Lollipop	4G
	Redmi 3s	1C001401	Xiaomi	5 inches	1280X720	SD 430	4000	13 f/2.2	6.0.1 Marshmallow	4G VOLTE
	Mi5	1D012561	Xiaomi	5.15 inches	1080X1920	SD 820	3000	16 f/1.8	6.0.1 Marshmallow	4GVOLTE
	MiMax	1KL4T410	Xiaomi	6.44 inches	1440X2560	SD652	4850	16 f/2.0	6.0.1 Marshmallow	4G VoLTE
	6	NOK0542G	Nokia	5.5 inches	1080X1920	SD430	3000	16 f/1.9	7.1 Nougat	4G VOLTE

Sensor	Bands	UI	Display and Protection	Storage and RAM	Wifi and Bluetooth	Charging.
Accelerometer, gyroscope, proximity, ambient light compass	4G Band 1,3,7,39,40 3G Band 850,1900,2100.	Miui 7.	IPS LCD / Gorilla Glass 3	16GB and 4GB	Wi-fi 802.11a/b/g/n/ac dual Band. Bt v4.1 ADP	micro USB v2.0
Accelerometer, gyroscope, proximity, ambient light, fingerprint, compass	41 " " " " "		" " "	32GB and 3GB	Wi-fi b/g/n. Bt v4.1 A2DP	" " "
" " " " " "	4G Band 1,3,5,7,9,37,39, 40. 3G Band		" " "	128GB and 4GB	Wi-fi 802.11 a/b/g/n/ac dual Band, SLNA. Bt v4.2 A2DP, LE	USB type C 1.0
" " " " " "				64GB and 4GB	" " "	
			clear Black Display, Corning Gorilla Glass 4.	64GB and 4GB		





Seller

ID	Name	Address	Contact No	Web Address	email
1053EC41	WS Retailer	71/1. Opposite BESCOM Office, MS Ramaiah Main Road, Gokula, SBM colony, Mathikere, Bengaluru, Karnataka 560054	9827645899	www.wsretail.com	wsretail19@gmail.com

Company

I.D	Company Name	Address	Contact No.	Customer care	Website	email
S107GT02	SAMSUNG	Head Office Samsung India Electronics Pvt. Ltd 20th - 24th Floor Two Horizon Centre, Golf Course Road Sector-43 Gurgaon-122002	18002668686 9818204849	0124-4881234	www.samsung.com	sales.enquiry@samsung.com
M150GT20	XIAOMI		01127548024	1800 300 2001	www.mi.com	mienquiry@gmail.com.

Order.

ID	CustomerID	MobileID	Status	Mode of Payment
OD14512056	CS1110056	MOB529207	Shipped	Cash on Delivery
OD16214106	CS1500021	MOB6219727	Cancelled	Cash on Delivery

means

SQL

Select Name from faculty.	Displays all the names of faculty.
Select Name, Dean from faculty	Displays all the names and deans of faculty.
Select Name from Course.	Displays all the names of courses.
Select * from Course.	Displays all the contents of course.
Select * from Course. where mode = 'Day'.	Displays all the contents of course where courses are Day courses.

Student
- enroll no
- Name
- DOB
- fName
- address
- bloodgroup
- contact no.
- Alt. phone
- e-mail

Dept
- id
- name
- FID
- HOD

Faculty
- id
- name
- Dean

Student course details.
- id (roll no.)
- student enroll no.
- Dept id
- course id

Course
- id
- name
- dept id
- duration
- type (Y/S)
- Mode (D/E)
- Minimum passing percentage
- Fees

Subjects
- id
- Name
- Syllabus
- course id
- teacher id
- Max-marks
- No. of periods

Teacher
- id
- Name
- gender

Marks
- Subject id
- Student id
- internal
- external.

Q. How you can identify difference between database management system and Relation base database management and give two examples of each database management system?

Q. What is the difference between SQL and SQL * plus?

Oracle Linux Server.

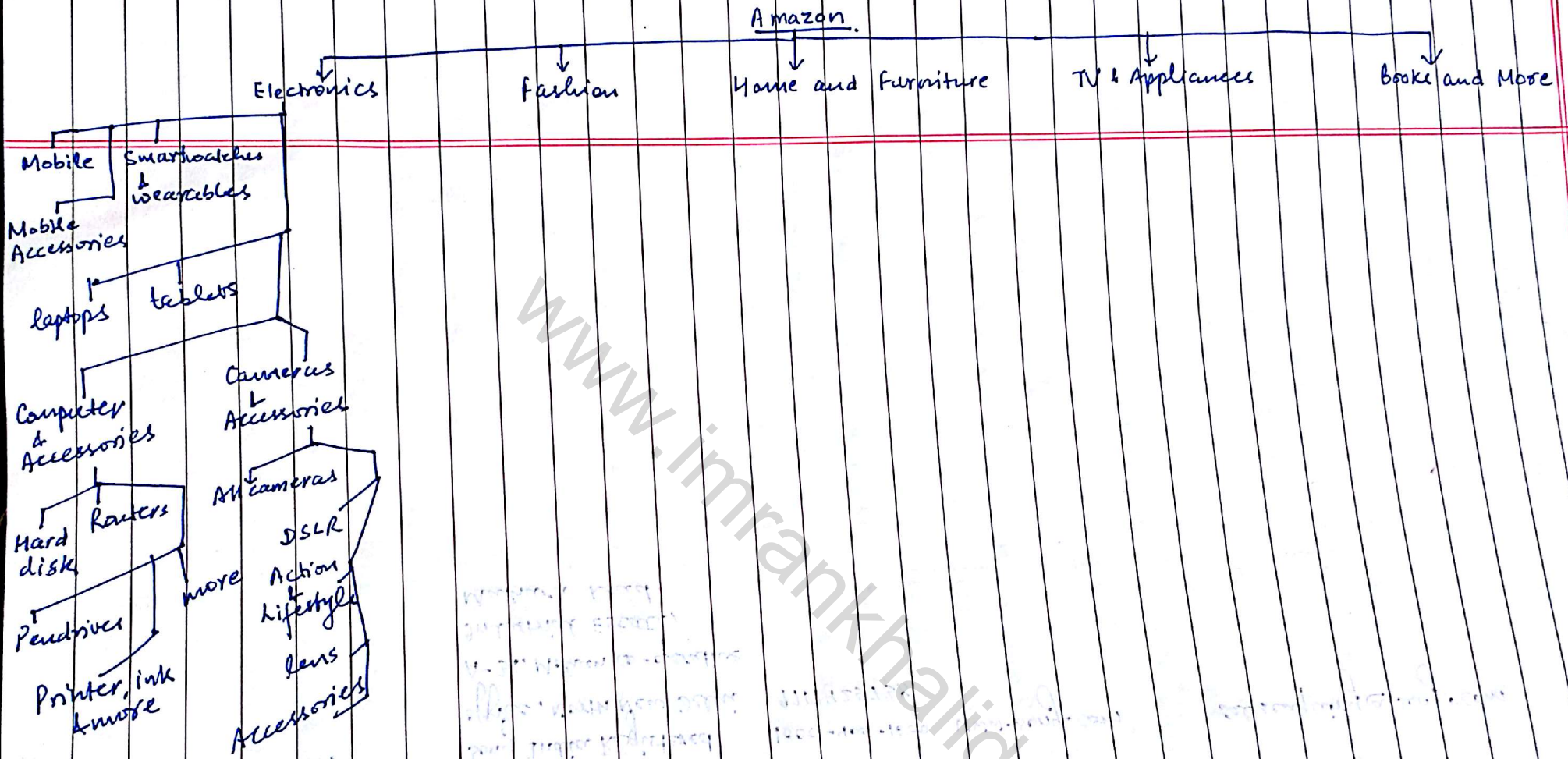
Both DBMS and RDBMS are used to store information in physical database.

Difference

	DBMS	RDBMS
1	DBMS applications store data as file.	RDBMS applications store data in a tabular form.
2	In DBMS data is generally stored in either a hierarchial form or a navigational form.	In RDBMS the table have an identifier called primary key and the data values are stored in the form of tables.
3	Normalization is not present in DBMS.	Normalization is present in RDBMS.
4	DBMS does not apply any security with regards to data manipulation	RDBMS defines the integrity constraint for the purpose of ACID (Automocity, Consistency, Isolation and Durability) property.
5	DBMS uses file system to store data, so there will be no relation between the tables.	In RDBMS, data values are stored in the form of tables, so a relationship between these data values will be stored in the form of a table as well.
6	DBMS has to provide some uniform methods to access the stored information.	RDBMS system supports a tabular structure of the data and a relationship between them to access the stored information.
7	DBMS does not support distributed database.	RDBMS supports distributed database.
8	DBMS is meant to be for small organisation and deal with small data it supports single user.	RDBMS is designed to handle large amount of data it supports multiple users.
9	Eg:- file systems, xml	Eg:- mysql, postgre, sqlserver, oracle,

Company

ID	Company Name	Address	Contact	e-mail	website
SAM12305	SAMSUNG	Head office Samsung India Pvt. Ltd. 20th-25th floor Two Horizon Centre, Golf Course Road Electronics Gurgaon - 122002	1800-300-2001 9818785549	www.samsung.com	sales.enquiry@samsung.com
SONE1421	SONY	Sony India Registered office, North New Delhi A-31, Mohan co-operative Industrial Estate, Mathura Road.	1800-400-1600 9717425738	www.sony.com	salesenquiry@sony.com



Database of Amazon

Seller
Company
Product
Payment Method
Customer
Offer
Category
Items

Items
- Model No.
- name
- category ID
- company ID
- Price
- Quantity
- Colour

Category
- Category ID
- Name

Customer
- Account ID
- Name
- Address
- email ID
- zip code
- Credit card.

Company
- Company ID
- Name
- Customer Name
- Email Address
- Web Address
- Service centre

Seller
- Seller ID
- Name
- Mob No.
- Address
- Email ID
- zip code

Payment
- Mode of payment
- Model No.
- Seller ID
- Account ID

Offer
- Model No.
- Category ID
- Offer %age
- price.

Items

Model No.	Name	Category ID	Company ID	Price	Quantity	Colour
1201	Laptop	1001	1543	$400	1	Black
1202	Cricket kit	1002	1612	$100	1	White
1203	Shirt	1003	1425	$30	3	Cyan
1204	Book (Let us C)	1004	1494	$15	5	Red
1205	Watch	1005	1717	$60	2	Golden

Category

Category ID	Name
1001	Electronics
1002	Sports
1003	Men's Wear
1004	Books
1005	Home Appliances

Customer

Account ID	Name	Address	email ID	Zipcode	Credit Card.
C110075	Farhan	C-32 Batla House	Farhan1@gmail.com	110025	81256148
C210075	Wasim	FRK Hostel JMI	wasim91@gmail.com	110025	12345791
C310062	Abuzar	A-6 Shaheen Bagh	Abuzar62@gmail.com	110065	62486799
C410075	Hamid	FRK Hostel JMI	Hamid_17@gmail.com	110063	75437892

Company

Company ID	Name	Customer Name	e-mail address	web address	Service Centre
S115	Samsung	Farhan	samsung@gmail.com	www.samsung.com	Old Delhi, Gurgaon, Lajpat Nagar, . .
S124	Sony	Wasim	sonyelec@gmail.com	www.sony.com	Paschim Vihar, Rajouri Garden . . .
R161	Redchief	Hamid	brandred@gmail.com	www.redchief.com	Gurgaon, Noida, Lajpat Nagar, ...
AD15C	Adidas	Abuzar	Adidas7@gmail.com	www.adidas.com	old delhi, Tank Road, South Ext. . .

Seller

Seller ID	Name	Mob. No.	Address	Email ID	zip code
601	ws Retailer	9811114675	G-65, MG Road, Bangalore	ws_retailer@gmail.com	110085
602	SN electronics	9971162856	street-A2, G Mall, Mumbai	SNElectronics@gmail.com	100063
603	Carbon group	8287926758	26/N-1, G-Vihar, Karnataka	Carb_group1@gmail.com	110003
604	Woodland	9212726688	N-1, 2-3 floor, Noida	WoodLand@gmail.com	110075

Payment

Mode of Payment	Model No	Seller ID	Account ID
Cash on Delivery	1203	604	C110075
Credit Card	1201	602	C210075
Cash on Delivery	1204	603	C310075
Cash on Delivery	1202	601	C410075

Offer

Model No.	Category ID	Offer percentage	Price
1201	1001	20% - 30%	$400
1203	1003	25%	$30
1205	1003	40%	$60
1202	1002	35%	$100

Database of whatsapp

User

- Contact No.
- Name
- Profile Picture
- Status

SQL

Q. WAQ to get the country name of the location name = "OKHLA".

A. Select c.name from location l, country c.
where l.country_id = c.id and
l.name = "OKHLA";

Q. Find the location Name of the employee whose Name is Abdul.

A. Select l.name from location l, employee e, dept d
where e.dept_id = d.id, d.loc_id = l.id and e.name = "Abdul";

Q. WAQ to display maximum salary.

A. Select max(salary) from emp;

Q. WAQ to count no. of employees.

A. Select count(id) from emp;

Predefined aggregates

Avg
count
first
last
max
min
round
sum

SQL> Select Name, Salary from emp order by salary.

output

Name and salary will be displayed in ascending order of salary.

SQL> Select Dept_id from emp group by Dept_id Distinct.

20/03/17

DataBase

A database is defined as collection of logically related data stored together that is designed to meet the information needs of an organisation. It is basically an electronic filing cabinet which contain computerized data files. It can contain one data file (a very small database) or a large no. of data files (a large database) depending on organisational needs.

A database is organised in such a way that a computer program can quickly select desired piece of data.

Database can further be defined as.

(a) A Collection of inter-related data stored together without harmful or unnecessary redundancy. However redundancy is used for performance reason but is costly.

(b) Serves multiple application in which each user has own view of data this data is protected from unauthorised access by security mechanism and concurrent access to data is provided with recovery mechanism.

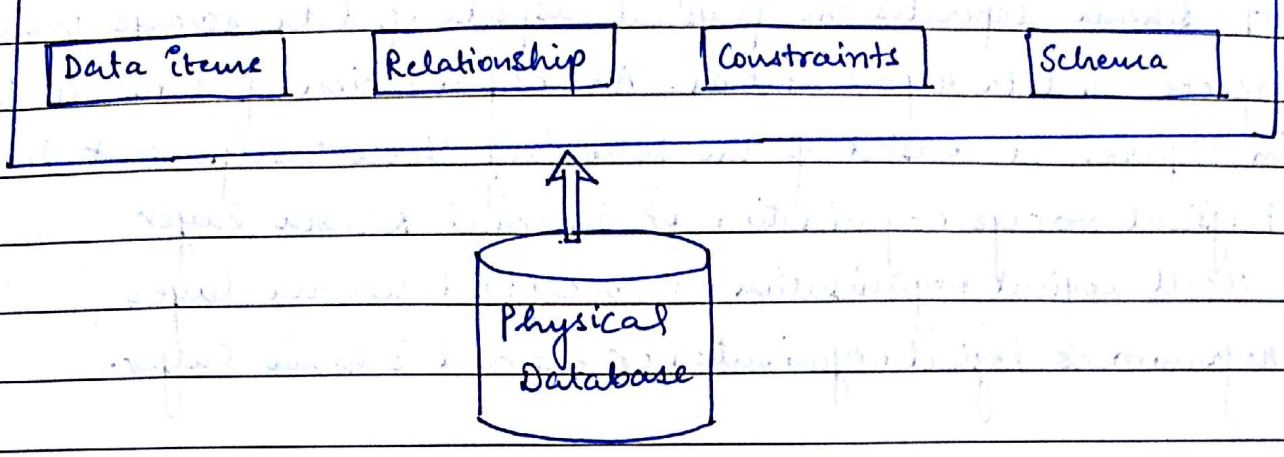
(c) Stores data independent of programs and change in data storage, structure or access strategy, do not require changes in accessing program or queries.

(d) Have structured data to provide a foundation for growth and control approach is used for adding new data, modifying and restoring data.

Components of Database

A database consists of following 4 components

1. Data items
2. Relationship
3. Constraints
4. Schema

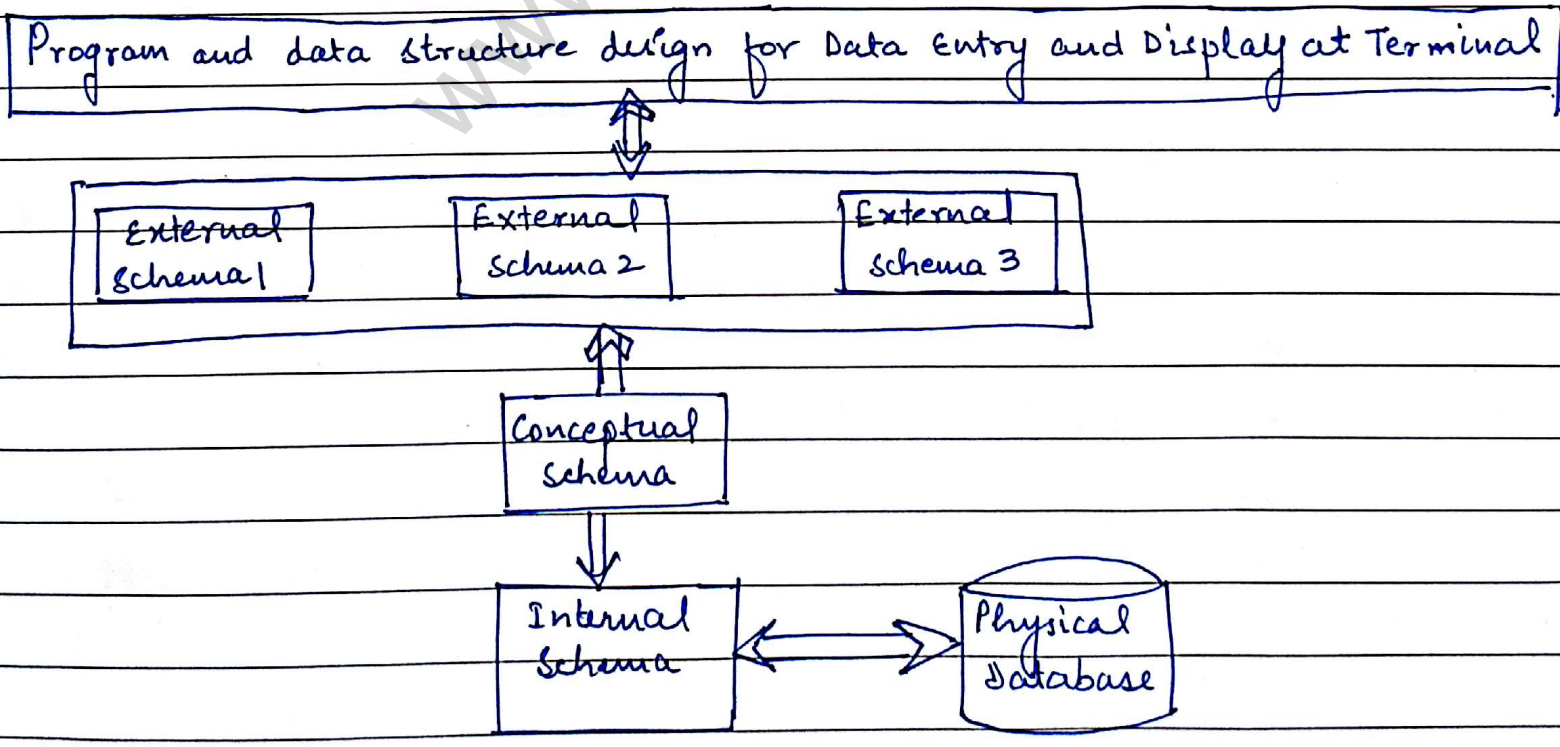


Data item → Data or data item is a distinct piece of information.

Relationship → Relationship represents a corespondence (communication) between various data elements.

Constraints → Constraints are predicates that defines correct database states.

Schema → Schema describes the organisation of data and relationships within the database. It defines various views of database for the use of various system components of database management system DBMS or for application security.



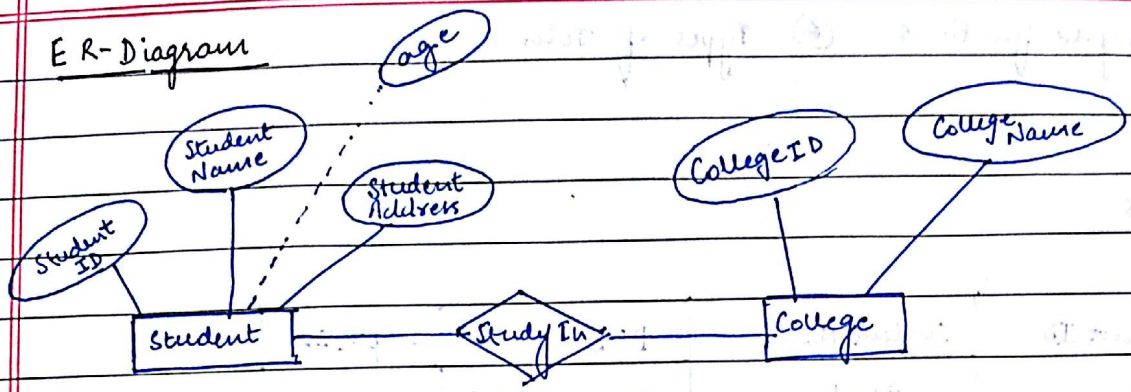
A schema seperates the physical aspects of data storage from logical aspects of data representation. An organisation of database is shown in figure. It consist of the following three independent level

① Physical storage organisation or Internal schema layer
② Overall logical organisation or conceptual schema layer
③ Programmers logical organisation or external schema layer.

Internal Schema → The internal schema defines how and where the data are organised in physical data storage. The conceptual schema defines the stored data structure in terms of database model.

External Schema → The external schema defines a view of database for particular user

E R-Diagram



Rectangular Box represents entity set.
Ellipse represents attributes or column name.
Diamond represents relationship.
Multiple Ellipse represents multiple attributes.
Double rectangle represents weak entity.
Dotted line represents derived attributes.

ASSIGNMENT

Q1. Write down the advantages and disadvantages of DBMS over the traditional file system.

Q2 Discuss the database models (Relational, Hierarchial, Network, etc).

Q3 Write down in detail about the languages of database system (DDL, DML & DCL)

Q4 Discuss the DBMS Keys (Primary key, Super key, Foreign Key, Composite Key, Candidate Key, etc).

Q5. What do you understand by ER Diagram define its symbols and also design a ER Diagram.

Normalisation

1NF As per rule of first normal form an attribute or cell cannot have multiple value

2NF As per rule of second normal form the first normal form should be true then non-key attribute should only depend on the key attribute.

Q6. Introduction to SQL.

(1) Characterstics (2) Advantages (3) Data Types (4) Types of SQL Commands in example

⑤ Aggregate functions ⑥ Types of Join

Keys

Enrollment No	Student ID	Student Name	DOB	Dept_ID
15-0166	01	Asad	30-03-1996	106
15-0299	02	Amir	27-11-1997	109
15-0177	03	Shahzad	01-01-1998	103

Super Key (Total no. of possible keys)

↓

Candidate Key (no. of possible keys that are useful / that can be made)

↓

Primary Key (Best key that can be picked from candidate keys)

↓

Alternate key (Other keys than primary key present in candidate key)

↓

Foreign Key (Primary key of another table)

Q Construct an ER Diagram for a Car Insurance Company whose customers own one or more car each. Each car are associated with 0 or any no. of recorded accident.

Q Construct an ER Diagram for Hospital with a set of patients and set of medical doctors. Associated with each patient in log of various tests and examination conducted.

1 Que:- Write down the advantage and disadvantages of DBMS over traditional file system?

Ans There are several advantages and disadvantages of DBMS over traditional file system.

Advantages:-

- No redundant data:- Redeundancy removed by data normalization
- Data Consistency and Integrity:- data normalization take care of it too
- Secure — Each user has different set of access
- Privacy - Limited excess
- Easy access to data
- Easy recovery
- flexible

Disadvantage:-

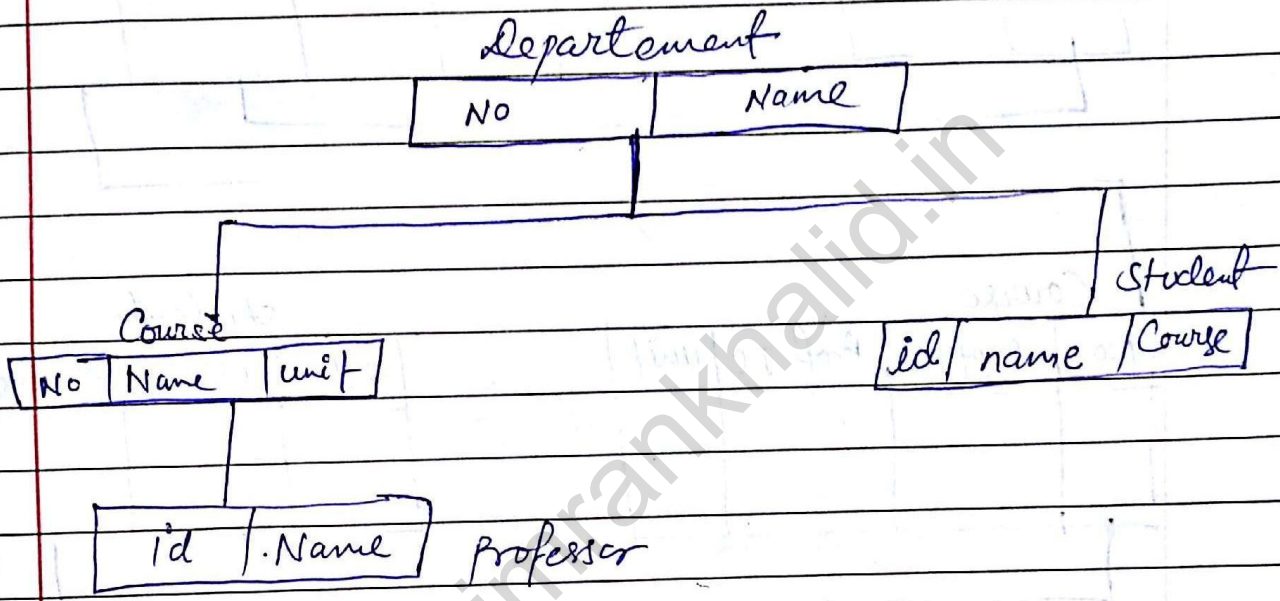
- DBMS implementation cost is high compared to the file system.
- Complexity:- Database system are complex to understand
- Performance:- Data Base System are generic, making them suitable for various applications. However this features affect their performance for some application.

2 Que:- Discuss Data Base Model?

Ans A Database model defines the logical design of data. The model describe the relationship between different parts of the data. Historically, in database design, three models are Commonly used. They are

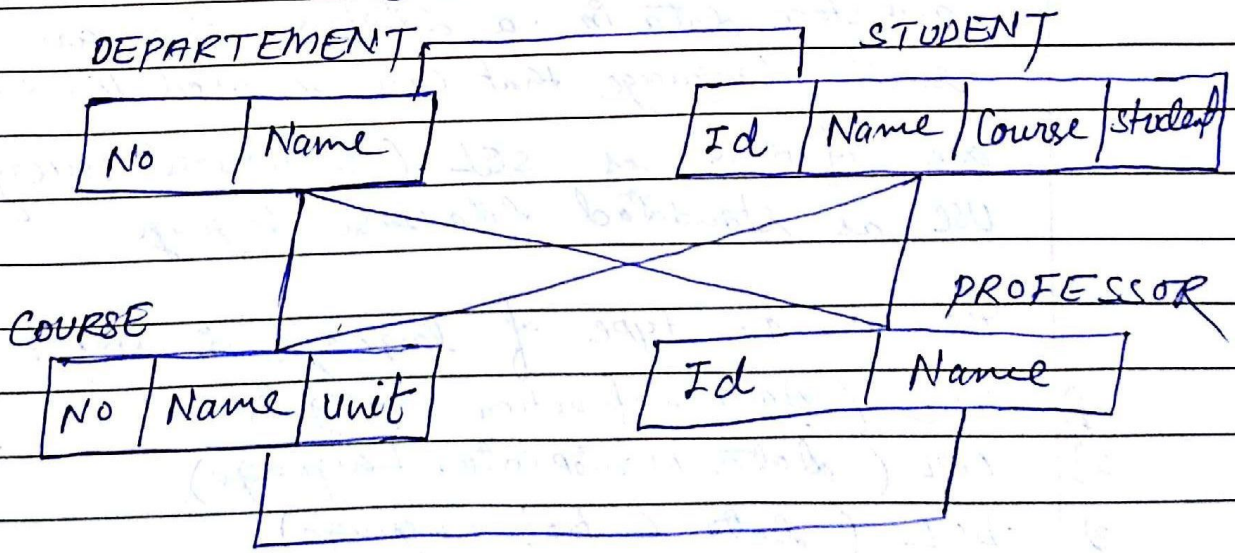
- Hierarchical Model
- Network Model
- Relational Model

Hierarchical Model:- In this model each entity has only one parent but can have several children. At the top of hierarchy there is only one entity which is called Root.



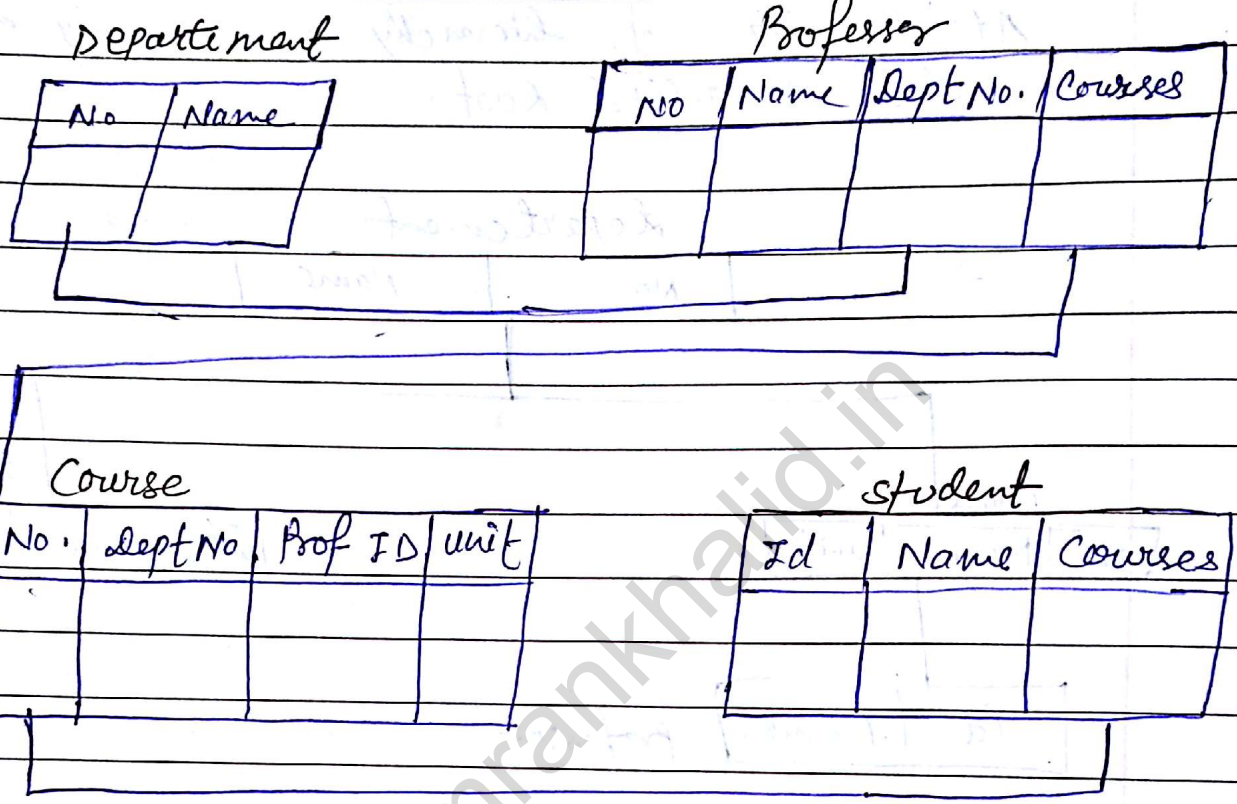
Network Model:-

In the network model, entities are organised in a graph, in which some entities can be accessed accessed through several path.



Relational Data Base model:

In this model, data is organised in two-dimensional tables called relations. The tables or relation are related to each other.



3 Qus Write Down ~~the~~ in Detail about the languages of Database System.

→ Data-base language are used for read, update, and store data in a database. there are several such language that can be used for this purpose. one of them is SQL (Structured Query language) use as standard database language

There are 4- type of language in SQL:

1) DDL (Data Definition Language)
2) DML (Data manipulation Language)
3) DCL (Data Control Language)

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Page No :

4) TCL (Transaction Control Language)

DDL (Data Definition Language):-

Data definition language statemat are used to define database or structure or schema (over all structure of database)

example.

1 CREATE - to create object in the database

syntax: Create table TABLENAME ( );

2. ALTER : alters the structure of the database or schema

Syntax:-

ALTER TABLE table Name ( );

3. DROP: delete objects (tables/columns) from the database.

Syntax:-

DROP TABLE table Name.

4 TRUNCATE - Remove all records from a table, including all spaces allocated for records are removed

Syntax :-

TRUNCATE TABLE table name.

Date :
Page No :

DML (Data Manipulation Language):
Data manipulation language statements are used for managing data within schema objects.

ex

(1) SELECT:- retrieve data from a database

Syntax:-
SELECT Attribute FROM relation ;

(2) INSERT:- alter data in to table

Syntax :
INSER INTO Relation (Attribute 1 .... AttributeN)
VALUES (value1 . . . valueN);

(3) UPDATE:- update existing data within a table

Syntax :-
UPDATE Relation SET Attribute 1 = value1 .... AttributeN = valueN
WHERE (condition);

(4) DELETE:- delete records from a table, the space for the records remains.

Syntax :-
DELETE FROM Relation WHERE (Predicate/Condition);

-DCL (Data Control Language):
Data Control language is used to control access to data stored in a database

examples
(1) GRANT:- Authorized one or more users to perform an operation or uset of operation on an object

Date :
Page No :

2 REVOKE eliminates a grant which may be the default grant

TCL (Transaction Control Languages)

TCL Command are use to manage transaction in database. These are used to manage the changes made by the DML statement. It also allows statement to be grouped together into logical transactions.

ex

(1) Commit :- It is use to permanently save any transaction in to database.

(2) Save point :- It is used to temporary save a transaction so that you can rollback to that point whenever necessary.

=value N

(3) Rollback :- It restores the database to last Committed state. It is also used with the save point Command to jump to a save point in a transaction.

Que (4) Discuss the DBMS Keys :-

Keys are very important parts of Relational database. They are used to established and Identify relation b/w tables. They also ensures that each record within a table can be uniquely Identify by Combination of one or more fields within a table.

Date :
Page No :

1. Super Key:- is defined as a set of attributes within a table that uniquely identify each record within a table.
Super Key is a superset of Candidate Key.

2. Candidate Key:
Candidate Keys are define as the set of fields from which primary Key can be selected. it is an attribute or set of attribute that can act as a primary key for a table to uniquely identify each record in the table

3. Primary Key:- Primary Key is a Candidate Key that is most appropriate to became main key of the table. It is a key that uniquely identify each record in a table

Primary Key

S-Id	S-Name	age	Course	address

4. Composite Key:-

Key that consist of two or more attributes that uniquely identify an entity occurance is called Composite Key. But any attribute that makes up the Composite key is not a simple key in its own.

Composite Key

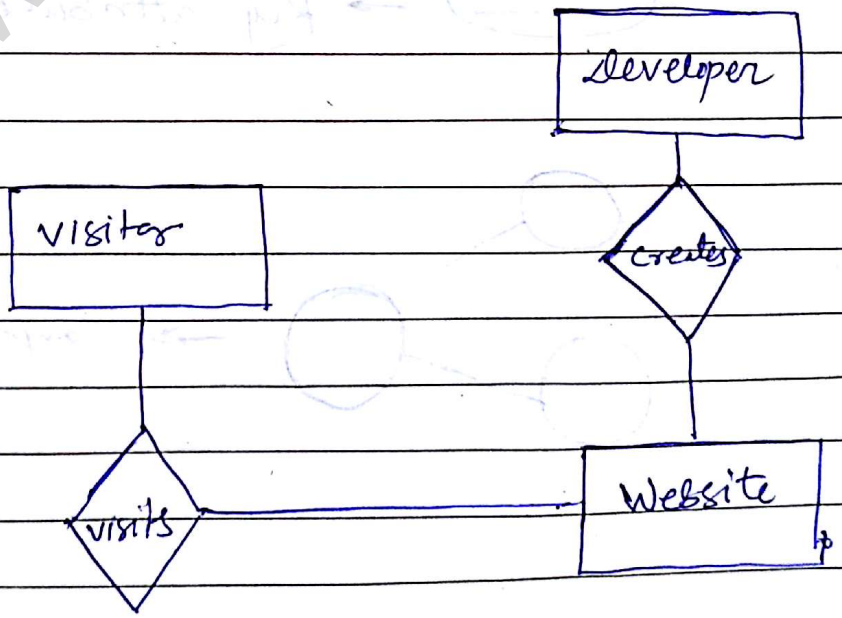
Cust-Id	Order-Id	sale detail

(5) Secondary or Alternative Key:-

The Candidate Key which are not selected for primary Key are known as Secondary Key or alternative Keys.

(6) Que What do you understand by E-R-Diagram. and define its symbol. and also design a ER-Diagram of your choice.

Ans E-R-Diagram is a visual representation of data that describes how data is related to each other



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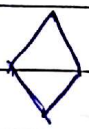
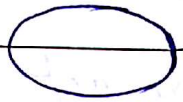
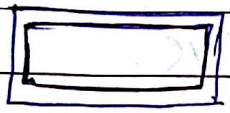
Symbols and Notations:

 → Entity

 → Relationship

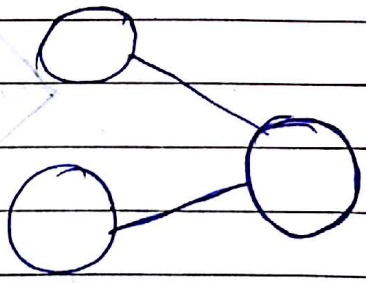
 → Attribute

 → Weak Entity

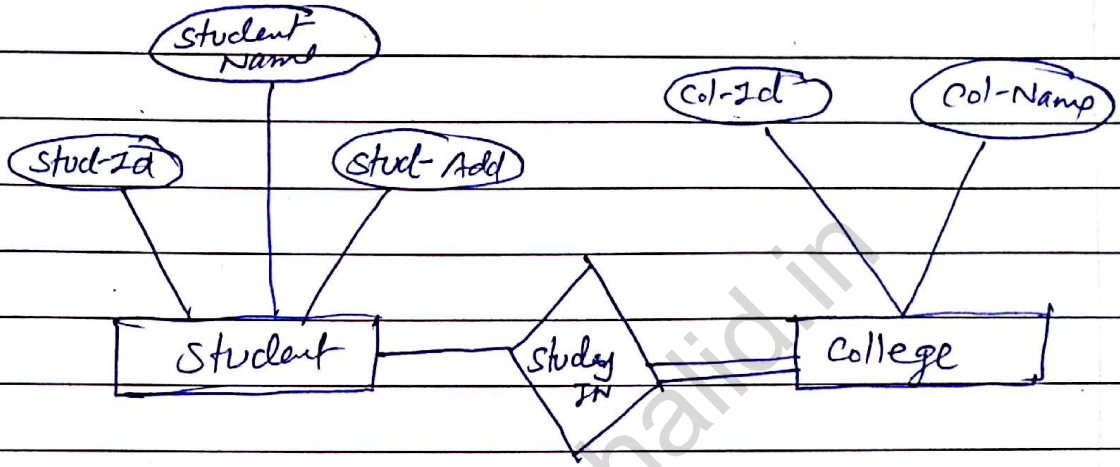
 → weak entity relationship

 → multivalued Attribute

 → Key attribute

 → Composite attribute

ER - Diagram with total participation of college entity set in Study in relationship set - This indicates that each College must have atleast one associated students



6 Que Introduction to SQL

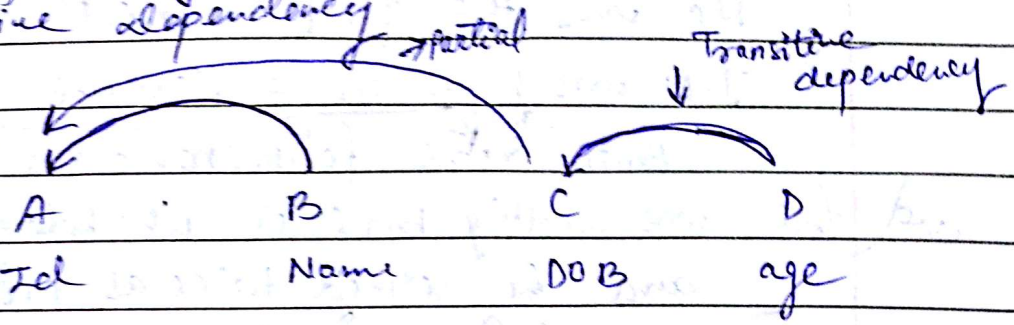
(i) Characteristic
(ii) · advantages
(iii) · Data type
(iv) · Types of SQL Command
(v) · Aggregate function
(vi) · type of joints

Ans

Functional Dependency

Date :
Page No :

(i) Partial dependancy
(ii) Transitive dependancy



$A \rightarrow B$

$A \rightarrow C$

$A \rightarrow C$

$C \rightarrow D$

$A \rightarrow C \rightarrow D$