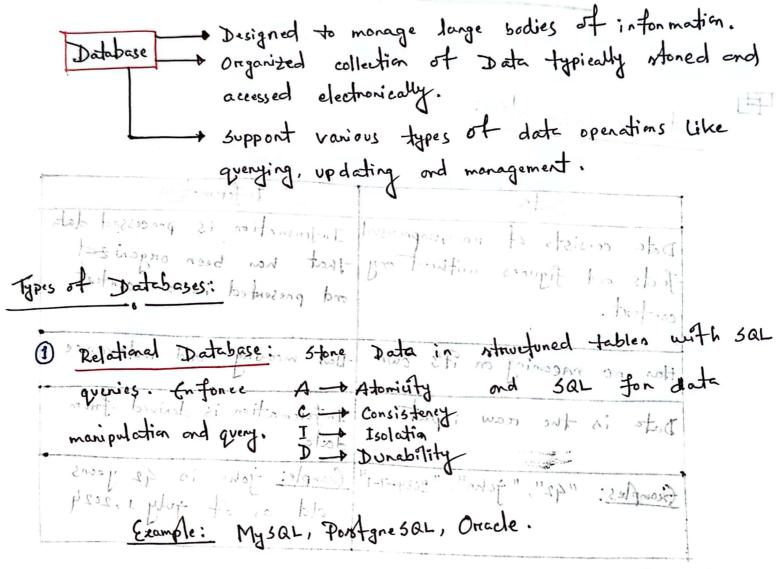
# Database Management

+ Desidued to mounds pouls perfect of Destroy + engented collection of I ale lipinity Datanity Information: Mosicortisolo lossessos to rough rowous trogges + transparan bro pritabou pripriorp Data consists of naw, unprocessed Information facts and figures without any that has been organized confext. Han no meaning on Fi's own Har meaning and nelevance Data is the reaw imputations Information is derived from Geomples: "42", "john", "2024-7-14 Geomple: john is 42 years as of july 1,2024 Mysal, Trityresal, Orecle.

Mon-relational Destaboses: Hordie vanious state models (my-value, decoment, columnan, graph).

Chierted Database: Stone data as objects.

Georph: Object DB.



Don-relational Databases: Hondle various data models (my-value, do coment, columnan, graph).

frample; Mongo DB, Redis

3 Object oriented Database: Stone data as objects.

Frample: Object DB.

1 Graph DataBase

1 table: An organized collection of data anargod is nows ad

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(5) Centralized DataBase

Recend: An individual now in a table representing a single data entity.

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comilla		101		- worr siz
Khulna	618	901	Sagged	neend
		TO STATE OF THE PARTY OF THE PARTY OF THE	A STATE OF THE PARTY OF THE PAR	· Min

Field: Name
Poll
Phone
phone

John Field nepresents a

# Table, Record, field and Value:

1 Table: An organized collection of data annoughed in nows and columns.

and the following

@ Record: An individual now in a table representing a single data entity.

3 field: Column in a table Mones a specific catagory of Data.

6 Value: Actual data stored in a field of within a necond.

#### Example:

### 5tudent

	Nane	Roll	Phone	Adness
	Rahim	102_	015	Dhaha
whole "now"	Kanim	104	017	comilla
is a necond	Saggad	106	018	Khulna
of Novim.		,		

Your freeze cell except field represents a value. Field: Name
Roll
Phone
Adneess

DBMs and RDBMs:

forming of trade on combigation of stelds and to contrad

DBMS - DataBase Management System

RDoms - Relational DataBase Managements System plantable

· primary kil: Unique idention for each neocond, no duplication

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Ban Braing Onganized Dota	Jen amoid
Processing DBMS Make	Radim 101 Kenim 102
Tunit	ware (computer) eard, DV
The tost ablated the no out	warel (computers eard, DVD,  warel (computers)  perduive)  Perduive)  to miterialmed: 1824 1 1839m2
· basser s	Stitub; Krantino

#### Advantage:

· Organized data stoned, easy to methicle and tothen management.

E Trod 501 20

Fast access to datas. The 101 201

- · Parallel Accessing. Here. No field is unique.

- Counc + University = Composite Med

05 101, DU - vrique

identity and access preconds within a tabley

· primary key: Unique identien for each necond, No duplicates

allowed.			this this		can	be a
. *	Name	(ID)	Hometown	16 Jan 1	rimary	key.
	Rahim	101	Dhaka .			
	Karim	102	kholna		a	
TOTAL	Rahim	103	. Dhaha	CICI	- D	1 reason
(00,00	Promon	03) 19100	broll	+/		Thou
	Way			320113	D:01 1.	1 +

· Composite key: Combination of two on monet fields that can uniquely identify a necond.

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	1427 1º0	Cou	ise :	University	Credit	in partie				
		C5	101	DU	4	ruat or	atob	bo	Organis	٠
		CS	102	BUET	3				D	
		Ç5	101	BUET	30106	07	2200	1.5	1.7.	

Hene, No field is unique.

- Counc + University z Composite Key

-> cs 101, DU - unique (

· Doralled Accessing.

Foreign key: Field unking to the primary key of another table, establishing a nelationship. 15bn any student bobolom ai Book ROU ROY Name Rohim ABC tol 101 Kanim Par 102 Saggad XYZ 103 102 Milon 10.4 1988 103 SSOUND MENTY 015 -- S10 Relationship: Each recent in one table can be related to trobut? Huesalt 1900 Mome Courtse CSE ME

## A Relation:

Relation nections to the association between tables that defines how data is related across different tables.

One-to-one (1:1) relationship: Gaen record in one fable in related

to a single record of a prother table; minor

Student Contact

Name Roll phone Adness

a 1 one one 2- 015-- Dhaka

5 2 one one 1 01-- 10

· One-to-many Relationship: Each necond in one table can be nelated to multiple neconds of another table.

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ļ	C	3		ME	2_	<del>-</del> kl
		7				<del>-</del>
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· Many to many Relationship: Each necond in one table can be related to multiple neconds in another table, and vice versa.

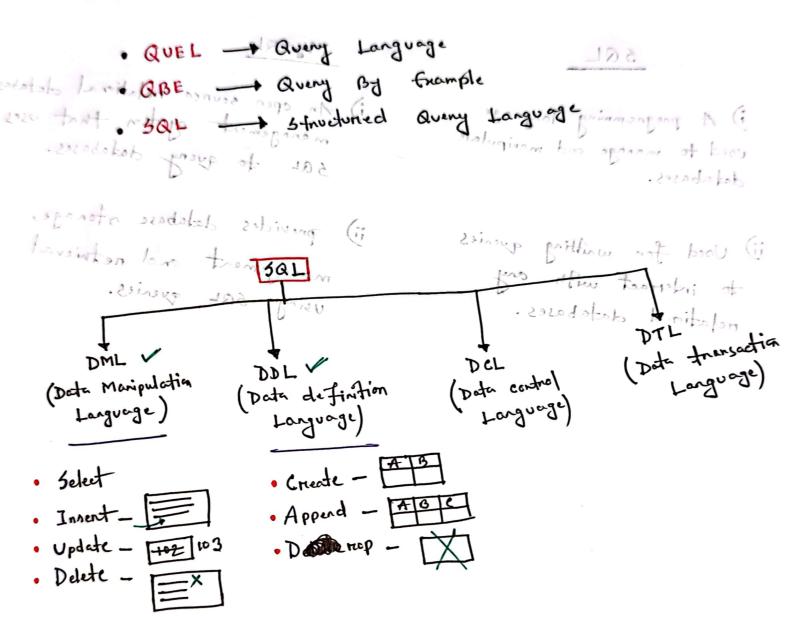
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	3	2		ME	3

Query and state on china personne . Bring on chick
A greny is a negrest for data on information from aid database.  Queries are used to netrieve, insert, update and deleter forcem
Queries are used to netrieve, insent, upon
database tables : nother table in table in the stables
Types:
an mone feble.
To fetch data that matches spellified territorias brough.
Grample:  'SELECT * FROM Student WHERE ROLL 2 101'
3ELECT " FROM 31
B parameter Quay: Dumpts the user to provide criteria input
parameter week. Spranning based on tobay
2) parameter Query: Prompts the user to provide criteria before input executing. To dynamically fetches Haten based on tunen input
102 Konm
SELECT * From Student WHERE POll 2 ??
SELECT * From Student WILL
4

3 Action Query: personnes actions on data such an inserting.
updating on deleting neconds.
· Make table: Add an another table in the descripting detaba
Mone lane. Has an another form
Types:
· Append so i post done one one of stock of the done one one one of the stock of the following a Adds, new rectands to felch dosts that most every property of the stock dosts of the stock dosts of the stock dosts.
Frangle:
· update Quenys of Modifies relexisting records in a fable and & pritures of the loss of the principle of th
Debte Queny: = 110 Remores presonds from a table dans

- G Crosstab Query: Summanizes data into a matrix format with rows and columns.
- (5) unmatched Query: Find missing on unmatched data in a table.

# Query Languages:



· Bougnot Mysale 1909. SQL Exemple beilet An open sounce tielational detabases management system. That uses management detabases. i) A programming language used to manage and manipulate sal to query databases. databases. ii) prevides database Monage, ii) Used for writting queries to interact with any management and netwieval relational databases. using sal queries. ( Date costed) ( 200 alvor DWT V

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1911 - briggA.

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Tordnoge)

· Update - 408/103

· Solect

Mysal Data Types:

Creating a Database: older tobute other TATEMI

(OC. 'Latabase Programmingheno;

CREATE database Programmingheno;

Blositamother Switch to programmingheno;

Jatabase ton

Jatabase

· Creating a Table:

Field Foll CHAR (4), PRIMARY KEY, Bittibom istable rome Name VARCHAR (50), tobate STATION

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1 = Mag 1974W

sho Deleting expubale table: ston

:0 = EATHORORANTABLE Programmingherso;
:1 = EATHORORANTABLE THE THE Hame
The table want of

· Insent: Table Gusting, Data Extray (Record) INSERT INTO Student -> Table: Name (Roll, Name, Marks) VALUES ('1; 'Sanafat', 90);
field Name Value Horsepanding field.

Field.

Tit no yolve given to a field it will automatically net to null. epite: Modifying existing data toward adapt of the state Creeding o Table: UPDATE Student (00) SAHSANV SMON SET Name = 'Sana fat Kaying CHROM WHERE ROLL = 1; note: not update ony data we have turn att the safe mode. SET SQL-SAFE-UPDATES = 0;

· Delete: Deleting a necondi (complete now).

DELETE FROM Student WHERE ROII = 1;

Note: keyword here anent
care nersitive. Both upper and
lower core letter can be used.