Excel/google sheet

* Built in functions
* Graphs
* The values were corrupted b’coz of the defined data format
* Difficulty in using by multiple users
* Difficulty in managing
* Manual sanity checking
* Adding new column was easy
* Input on daily basis
* Duplication in data,
* Difficulty in finding info

SPSS – tool for accepting user inputs, doesn’t work good with large datasets

Pandas – read large datasets in diff formats, data analysis

Survey monkey – for feedback collection

MS access –

CRM software –

**Dream database features:**

* Easy to fetch info
* Recovery of database
* Multiple user access
* Easily manageable
* Importing
* Security
* Massive databases
* Compatible to diff OS
* Consistent data
* Accessible in all medias
* Infinite storage
* UpToDate information
* Data backup

**Atomicity** – either all done or not at all

**Consistency** – same valid data

**Isolation** – transaction working independently with affecting others

**Durability** – committed data should be available

**RDBMS** – Relational Database Management System

**Data** – any info like date, character, number…

**Database** – logical collection of data

**Database management** - operations on the database

**DBMS** – using system for database management

**RDBMS** – tables linked with each other

**SQL –**

DDL – Data Definition Language

DML – Data Manipulation Language

TCL – Transaction Control Language

DCL – Data Control Language

SELECT <columns>

FROM <tables>

WHERE <row level condition>

GROUP BY <columns>

HAVING <group condition>

ORDER BY <columns>

LIMIT <number>;

**Schema**

CREATE TABLE <table name>(

<column name> <data type> <\*constraints>,

<column name> <data type> <\*constraints>,

<column name> <data type> <\*constraints>

);

**Constraints**

1. Primary key – unique and not null
2. Foreign key – linked with PK
3. Not null – can’t be empty
4. Check – limit my data in the field
5. Default – default value
6. Unique – unique value

**Schema creation**

1. Collect data to be inserted.- >give column names
2. Put logical related info in separate tables -> entity diagram
3. Join the tables (considering relationship between tables) -> Entity relationship Diagram

**Meal Order Entity**

Restaurant -> RestuarantID, name, location

Item -> id, name, price, retuarantID(FK)

Lunch\_order -> id, date,userid(FK), restuarntID(FK)

User ->

**Meal Order Entity Relationship**

user – lunch\_order -> 1: many

restaurant – lunch\_order -> 1:many

item - restaurant -> many:1

item – lunch\_order -> many:many -> order\_item(quantity)

Database objects - **create** …

* Table
* View
* Triggers – based on event the action takes place
* Stored procedures – procedure, function, package – functionalities (PLSQL = PL + SQL)
* ……

Sal =1000

Sal = 1100

OLTP – Online Transactional Processing(DML)

OLAP – Online Analytical Processing (select and do analytics)

**Extract** – retrieve and verifies the data from multiple sources.

**Transform** – process and organise into usable format.

**Load** – move transformed data to the repository.

Indexes types:

1. Clustered
2. Non- clustered