Puvena   6210545734

**Department of Computer Engineering**
**Faculty of Engineering**
**Kasetsart University**

Homework #1: Introduction to Databases

1. **File-processing system VS DBMS.** List 3 significant difference between a file-processing system and a DBMS. Clearly explain each one using example.

(1.) The file processing system is only stored and retrieve data but DBMS can manage, acess, create a database.

(2.) Recovery; DBMS keeps the back up of data, so it's easier to recovery the data if database is down

(3.) File-processing system is less expensive than DBMS, it's only stored and retrieve data, but the DBMS need to design a complex mechanism to manage the data, need a high skills.

2. **Benefits of File-processing system VS DBMS.** List 3 benefits of using file-based systems. Clearly explain each one using example.

1) Cost friendly; There is a very minimal to no set up and usage fee for File Processing System

2) Easy to use; File processing system require very basic Learning and understanding

3) High Scalability; One can very easily switch from smaller to larger files as per his needs.

3. **DBMS systems.** List 3 DBMS (not discussed in class) with their characteristics and components

1. SQLite; Software library provides a relational database management system. It's not client server database engine. It's embedded into the end program.

2. DB2; Relational database management system from IBM that design to store analyze and retrieve data. extended with OO-features and non relational structure with XML. Mostly DB2 will use for store huge amont of organization

4. **DBMS systems.** List 3 drawbacks of DBMS

1. DBMS implement cost is higher than file process system.
2. Complexity; DBMS is so complex to understand.
3. Performance; DBMS is generic, making them suitable for various applications. However this feature affect their performance for some applications.
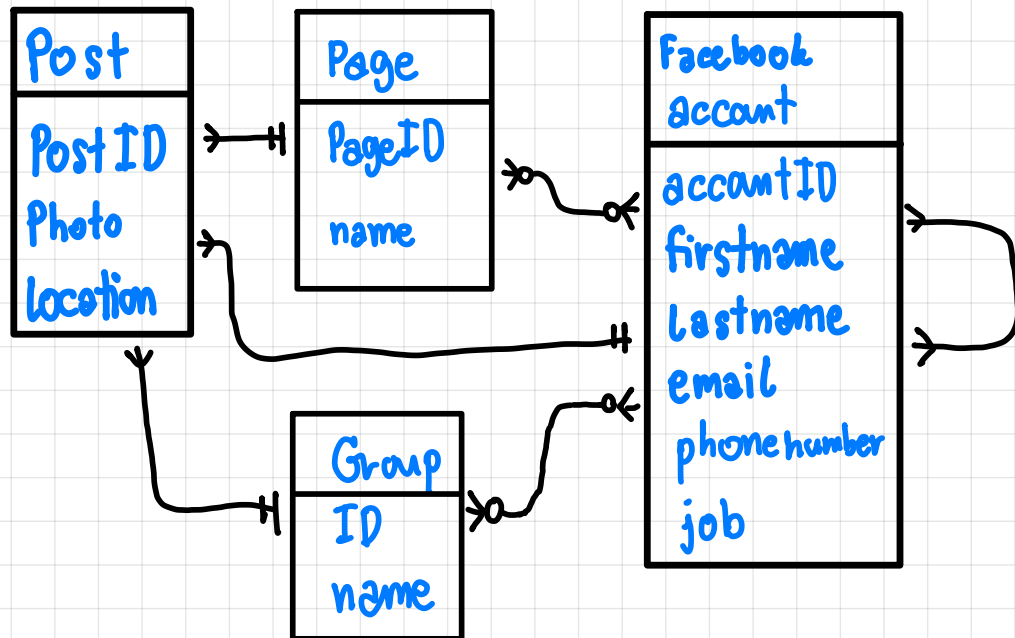
5. **Queries in Web search VS Database queries.** Keyword queries that are used in Web search are quite different from database queries. List key differences between the two, in terms of the way the queries are specified, and in terms of what is the result of a query.

The web search queries will got all results that related to the keyword, but the database queries is a request for the data in the database. It can updated by using query. so it's more precise and accurate.

**6. Database Applications.**

    a.   List 2 applications you have used that most likely employed a DBMS to store persistent data.

    b.   For each application, show the list of table(s) with their characteristics.

Facebook → Apache cassandra

| Post |
| --- |
| Post ID |
| Photo |
| location |

| Page |
| --- |
| PageID |
| name |

| Facebook account |
| --- |
| accountID |
| firstname |
| lastname |
| email |
| phone number |
| job |

| Group |
| --- |
| ID |
| name |

2. Github → SQL

| repository |
| --- |
| id |
| name |
| forks |
| open issues |
| watcher |

| Issue |
| --- |
| id |
| repository_id |
| name |
| creator |
| open_date |
| close_date |

| Commit |
| --- |
| id |
| repository_id |
| commiter |