

Republic of the Philippines
Bulacan State University
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City of San Jose Del Monte, Bulacan

ASSIGNMENT #1

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Subject: BSP113- Advance Database

Course: Bachelor of Science in Information Technology **Instructor:** Mark Christian O. Aringo

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OUTPUT

1) What is the Basic Concept and the Definition of Data Management System?

Database Management System or "DBMS" is a software system and serves an interface that enables the users to define, create, store, read, update, and control access to the database. The Database Management System is the process of collecting, storing, maintaining data. DBMS helps to manage the data, engine, and schema that allows the users to manipulate the data and organize the data by using the design technique called "Normalization". Database Management System offers data integrity, security, and uniform data administration procedure. The basic fundamental concepts of Database Management System are query languages (DDL, DML, DCL, TCL, DQL), data models, file organization and indexing, candidate keys, and key fields. The examples of Database Management System are the following: Microsoft Access, MySQL, Microsoft SQL Server, Oracle Database, and MariaDB.

2) Identify the advantages of the DBMS approach over the file system.

The advantages of the Database Management System over file system are the following:

No redundant data, Data Consistency and Integrity, Data Security, Privacy, Easy Access to Data, Easy Recovery, and Flexibility.

1) No Redundant Data - Data normalization removes data redundancy and no data duplication.

2) Data Consistency & Integrity - The cause of data inconsistency is data redundancy. Data Normalization is important to avoid data inconsistency.

3) Data Security - Each user has a different access to data to lessen the prone for identity theft, data leaks, and misuse of data.

4) Privacy - DBMS can have different sets of access to data according to each user. It allows a grant and revokes access.

5) Easy Access to Data - DBMS are convenient and accessible in terms of managing data.

6) Easy Recovery - Database systems should be back-up and it is easier to recover data.

7) Flexibility - DBMS can be more flexible compared to file processing systems. It is adjustable on scale and can remove existing tables without causing inconsistency on data.

3) Look for at least 3 standards Database Management Systems available in the market today.

Provide a brief discussion of each DBMS.

The current or leading Database Management System in the market are Oracle Database, MySQL, Microsoft SQL Server, and PostgreSQL.

1) The Oracle Database has been active in selling enterprise databases since 1979. It is a cross-platform and can run on various hardware across operating systems. It also has several structural features such as Logical Data Structure, Memory Caching, Data Dictionary, Backup & Recovery.

2) MySQL is an open-source DBMS from Oracle Corporation and based on the SQL or Structure Query Language. The MySQL Database Software is a client system that consists of a multithreaded SQL server that supports different back ends, several different client programs and libraries, administrative tools, and a wide range of application programming interfaces (APIs).

3) Microsoft SQL Server It offers more than 12 available versions to meet the range of organizations to small businesses and enterprises. The fundamental of Microsoft SQL Server is the SQL Server Database Engine, which controls the data storage, processing and security.

4) PostgreSQL is also an open-source object-relational DBMS with 35 years. It serves as a data warehouse for mobile, web, analytics applications and geospatial. It provides support to the different functions of SQL like subqueries, foreign keys, and triggers.