**ANGELES, CHRISTIAN C.  
BSIT – NW3B  
  
WEEK 12- ASSIGNMENT06**

**Instructions**: Read and answer the following:

1. What is the concept of the Enhanced Data Model? Discuss the following:

       Rich features are offered by the upgraded data model, but backward compatibility was degraded. Numerous additional capabilities for data structures are available with the enhanced data model. The data model to employ must be chosen by data producers. Use the enhanced model for programming purposes since complex data structures may be readily represented in the data. Existing HDF5 programs must adopt the upgraded model if they create or consume this data and depend on user-defined types, unsigned types, strings, or groups. The enhanced model could offer substantial advantages in situations that need high performance.

a. Active Database

A database that has a set of triggers is called an active database. Because it might be complicated to comprehend how these triggers work, these databases are highly challenging to manage. In such a database, before executing the statement that updates the database, the DBMS first confirms that the specific trigger indicated in the statement is enabled or not.

When a trigger is active, the DBMS first performs the condition part, and only if the stated condition is true, does it then execute the action part. In a single statement, it is possible to activate many triggers.

In such a case, the DBMS executes each trigger at random. When an action component of a trigger is executed, it may either activate further triggers or the original trigger that initiated the action. Recursive triggers are those kinds of triggers that activate themselves. Such trigger chains are executed by the DBMS in a predefined manner, however this has an impact on understanding.

 b. Knowledge-based and Deductive Database

Systems that employ database ideas and models to store and retrieve knowledge are known as knowledge-based database (KBDB) systems. Systems with knowledge-based databases assist in knowledge management (KM). Most frequently, the expertise is exclusive to a certain field. To create the frameworks for the information representation, several teams of knowledge-based database system designers employ certain terminology and concepts. The same terminology may be used by several databases but have distinct meanings. As an alternative, the same concept may be conveyed using several terms.

A deductive database is a database system that draws conclusions from its data in accordance with a predetermined set of guidelines and information. Relational database management technologies and logic programming were combined to create this form of database. Typically, the logical programming language Datalog is used to specify the rules and facts.

  c. Object-oriented database

The term "object-oriented databases" (OODB) refers to databases that store data as objects and classes. An object is a real-world entity in object-oriented jargon, while a class is a group of objects. The basic tenets of object-oriented programming are followed to by object-oriented databases (OOP). An object-oriented database model is created by integrating the concurrency, transaction, and recovery capabilities of the relational model with object-oriented concepts.

A relational model alternative implementation is the object-oriented database model (OODBM). In theory, an object-oriented programming language and an object-oriented database are equivalent. An object-oriented database management system is a hybrid program that processes data using both relational and object-oriented database principles.

Reference:

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