CS101 updated VU Final term Past Paper Last 5 Year
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Questions:

1. **What is the main idea behind the object-oriented paradigm in database modeling?**

   Answer: The object-oriented paradigm in database modeling involves creating an object-oriented database consisting of interconnected objects representing entities and their relationships. Each object belongs to a specific class, and these classes define the structure of the objects. Objects are linked to each other to reflect their relationships, forming a network. For example, in an employee database, there could be classes like Employee, Job, and Assignment, with objects containing relevant attributes. This approach ensures a more natural representation of real-world entities and their associations.

2. **How are links between objects maintained in an object-oriented database, and what role does the DBMS play in this process?**

   Answer: The links between objects in an object-oriented database are typically maintained by the Database Management System (DBMS). When a new object is added to the database, the application software specifies the other objects to which it should be linked. The DBMS then creates any necessary linkage system to record these associations. This ensures that the details of how these links are implemented are not a concern for the programmer. The DBMS handles the task of linking objects, maintaining relationships, and creating a cohesive database structure.

3. **What advantages do object-oriented databases offer over relational databases, as mentioned in the paragraph?**

   Answer: Object-oriented databases offer several advantages over relational databases. One advantage is that the object-oriented approach allows the entire software system, including application software, DBMS, and the database, to be designed in the same paradigm, avoiding clashes between imperative and relational paradigms. Additionally, object-oriented databases can encapsulate technicalities of different data formats within objects, providing flexibility in handling attributes like employee names. This

encapsulation is advantageous for multimedia databases, as the object-oriented approach is more compatible with the construction of databases containing diverse data types.

4. **In the context of database integrity, how does the role of a DBMS differ between inexpensive personal-use databases and large commercial databases?**

Answer: Inexpensive personal-use database management systems aim to shield users from technical details and generally handle small databases where data loss or corruption is inconvenient rather than disastrous. Users can correct errors directly or reload from backups. On the other hand, in large commercial databases, where the stakes are higher, the primary role of the DBMS is to maintain database integrity. This involves guarding against problems such as partially completed operations or interactions between different operations that may lead to inaccurate information. The cost of incorrect or lost data in large commercial databases can be enormous, necessitating robust measures to ensure data integrity.