Assignments - Introduction to DBMS

1. The persistent property of databases indicates — 1 point

- ○ Data reside in volatile memory erased when user interaction completes.
- ○ Applications using a database never fail.
- ◉ Data reside on stable storage as the long-term memory of an organization.
- ○ Data requires appropriate authorization for modification and retrieval.

2. The inter-related property of databases indicates — 1 point

- ○ Entities exist independently without relationships to other entities.
- ◉ Databases maintain connections or relationships among entities to store business interactions.
- ○ Entities exist independently except when required for applications.
- ○ Databases maintain connections among applications using entities.

3. The shared property of databases indicates — 1 point

- ○ Databases can have multiple users and uses (applications).
- ○ Each entity in a database can only have one active user.
- ◉ Organizations forfeit access controls to databases.
- ○ Organizations must grant open access to databases.

4. What is the meaning of the SQL acronym? — 1 point

- ○ Sequel
- ○ Structured Quotient Lingo
- ○ Super Query Language
- ◉ Structured Query Language

5. Identify important DBMS features. More than one answer is possible. **1 point**

- [x] Non procedural access
- [x] Data definition
- [x] Transaction processing
- [ ] Workflow definition

6. Indicate the work emphasis of a database administrator. More than one answer is possible. **1 point**

- [x] Focused on individual databases
- [x] Primary role for data planning
- [x] Requires skills and knowledge of specific DBMSs
- [ ] Primary role for setting data standards for an organization

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8. What is an enterprise DBMS? **1 point**

- ( ) Supports small workgroups with modest performance and reliability capabilities
- (•) Resides in a larger system, either an application or a device with limited transaction processing, memory, processing, and storage.
- ( ) Ssupports mission critical information systems with high performance for storage, transaction processing, and scalability.
- ( ) Supports servers for website usage

9. What is a desktop DBMS? **1 point**

- (●) Supports small workgroups with modest performance and reliability capabilities
- ( ) Resides in a larger system, either an application or a device with limited transaction processing, memory, processing, and storage.
- ( ) Supports mission critical information systems with high performance for storage, transaction processing, and scalability.
- ( ) Supports servers for website usage

10. What is an embedded DBMS? **1 point**

- ( ) Supports small workgroups with modest performance and reliability capabilities
- ( ) Resides in a larger system, either an application or a device with limited transaction processing, memory, processing, and storage.
- ( ) Supports mission critical information systems with high performance for storage, transaction processing, and scalability.
- (●) Supports servers for website usage

11. Languages for non-procedural database access have explicit statements for looping. **1 point**

- ( ) True
- (●) False

12. What tools do enterprise DBMSs provide for non-procedural access? More than one answer is possible. **1 point**

- [x] the SQL SELECT statement
- [x] Graphical tools such as the Query Builder tool in the Oracle SQL Developer
- [x] Database programming languages combining a procedural language with non-procedural database access.
- [ ] The SQL CREATE TABLE statement

13. What are the benefits of non-procedural database access? More than one answer is possible. **1 point**

- [x] Improve software productivity
- [x] Improve accessibility of databases to users without programming skills and training.
- [ ] Provide security for databases
- [ ] Provide privacy for databases

14. Indicate reasons that organizations use database programming languages. More than one reason is possible. **1 point**

- [x] Batch processing especially for big data tasks
- [x] Customization especially for ecommerce and automation
- [ ] Data visualization for business analysts
- [x] Modularization to organize code performing database retrieval and modification

15. What statements are true about database transactions. More than one answer is possible. **1 point**

- [x] Support daily operations of an organization
- [x] A database transaction consists of a collection of database operations to read and write to a database.
- [ ] A transaction consists of a single database operation.
- [x] A DBMS reliably and efficiently processes each transaction as one unit of work.

16. Identify services provided in database transaction processing. More than one answer is possible. **1 point**

- [x] Optimized processing of SQL SELECT statements
- [ ] Control of interference among concurrent users
- [x] Recovery from failures without loss of completed transactions
- [x] Query modification

17. Identify decision making levels with primary support by data warehouses. More than one answer is possible. **1 point**

- [x] Lower (operational) decisions such as resolving a shipping delay
- [x] Middle (tactical) decisions such as sales forecasting
- [x] Top (strategic) decisions such as identifying new markets
- [ ] Micro (sub operational) decisions such as packet routing

18. Identify characteristics of data warehouses. More than one answer is possible. **1 point**

- [x] Populated from operational databases and external data sources
- [x] Optimized for efficient and reliable processing of large volumes of daily transactions.
- [x] Transformations and integrations performed to support decision making
- [ ] Optimized for reporting that summarizes large amounts of data

19. Indicate characteristics of fourth generation DBMS products. **1 point**

- (•) Object-oriented, NoSQL
- ( ) Relational with non-procedural access
- ( ) Navigational
- ( ) File-oriented

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20. Indicate recent areas of development for database technology. More than one answer is possible. **1 point**

- [x] Business intelligence processing
- [ ] Initial development of optimizing database compilers
- [x] Cloud computing
- [x] Optimization for big data demands

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