

DATABASES FINAL EXAM

1. A large data store that stores historical data about an entire organization is called a **data warehouse**
2. A relational database stores data in the form of **tables**
3. Data consistency means **all occurrences of the same data item agree**
4. Faster development of new applications is often possible in a database environment because **no file creation phase is needed**
5. Which of the following is an advantage of a database compared to a file processing system? **Sharing of data**
6. All of the following are data security techniques EXCEPT **windows**
7. To prevent errors, database users are never allowed to access the database simultaneously. **False**
8. The most important development in the database field during the past decade is the development of relational databases. **False**
9. NoSQL systems are designed to provide real-time query processing. **True**
10. On the logical level, the data about data is described as **metadata**
11. Making adjustments to physical database structures in order to improve performance is called system **tuning**
12. Any attribute or set of attributes that uniquely identifies an entity is called a **superkey**
13. When an entity set is related to itself, we have a _____ relationship.
Recursive
14. The middle level of the three-level database architecture, containing the entire information structure as seen by the DBA is the **logical**
15. Which of the following is a DBA responsibility during the planning and design phase of a database project? **Developing the logical model**
16. The SQL language can be used for creating and manipulating object-relational databases. **True**
17. In the object-oriented data model, encapsulation refers to the fact that objects remain in existence even after an application program terminates. **False**
18. The attributes of a relation are represented in a table by the **columns**
19. In the relational model, an attribute of a relation that is the primary key of some other relation is called a(n) **foreign key**
20. The relational algebra operator that takes rows of a single table that meet a specified condition is the **SELECT operator**
21. A major difference between program objects and database objects is **persistence**
22. All of the following are set operations that can be performed on suitable relational tables EXCEPT **SUM**
23. Relational views are used for all the following reasons EXCEPT **they provide more efficient access to records**
24. Object-oriented database management systems allow the database designer to create highly complex, interrelated objects and to give them persistence. **True**
25. The base tables in a relational database correspond to which level in the standard three-level database architecture? **The logical level**

26. To eliminate duplicates in the results of an SQL query, use the option **DISTINCT**
27. The SQL function that returns the number of values in a column is **COUNT**
28. The SQL option HAVING can only be used with the option **GROUP BY**
29. The SQL statement used to end a transaction that makes any changes (permanent?) **COMMIT**
30. To display data retrieved using an SQL SELECT in ascending order, use the option **ORDER BY**
31. The SQL ALTER TABLE command can be used to do all of the following except **drop the table**
32. SQL includes a data definition language and a data manipulation language. **True**
33. The development of big data analytics is important to the advancement of: **all of these**
34. Oracle automatically creates indexes for **the primary key of each table**
35. NoSQL technology uses the concept of eventual consistency, which means: **all of these**
36. Which one of the V's of big data refers to questions about data correctness and data validity? **Veracity**
37. In the Hadoop Distributed File System, a file is divided into subcomponents known as **blocks**
38. To erase all records in the Employee table, while keeping the structure of the table, we could write the SQL command **DELETE FROM Employee**
39. NoSQL systems were designed to provide real-time access to big data stores as well as row-level inserts, updates, and deletes on data that may not have a well-defined schema. **True**
40. Big data refers to massively large, structured data sets with well-defined schemas. **False**
41. The process of checking data for validity and integrity before placing it in a data warehouse is called **data cleaning**
42. The process of updating data in a data warehouse is called **data refresh**
43. A star schema consists of **one fact table and many dimension tables**
44. The phrase full table scan means **examining every tuple in the table**
45. A conjunctive condition is one involving **AND**
46. The process of checking a query to verify that the objects referred to in the query are actual database objects is called **validation**
47. _____ means discovering new information from very large data sets. In addition to database technology, data mining uses techniques from the fields of statistics and artificial intelligence, especially machine learning. **Data mining**
48. There are two competing methodologies for designing data warehouses: top-down and bottom-up. **True**
49. The traditional aggregate functions of SUM, COUNT, MAX, MIN, and AVG cannot be used in queries for a data warehouse. **False**
50. Verifying the identity of a user is called **authentication**
51. SQL injection can be mitigated by **all of these**
52. Which term refers to the requirement for only authorized users to be allowed to modify data? **Integrity**

53. The architecture in which the database resides on a back-end machine and users access data through their workstations is **client-server**
54. In an XML instance document, the element that contains all others is called **the root**
55. In a distributed database system, the data placement alternative with the highest reliability and availability is **fully replicated**
56. Distributed database systems support only traditional SQL-based relational systems. **False**
57. The most widely used authentication mechanism is **passwords**
58. A database concurrency control problem that occurs only in a distributed environment is the **multiple copy consistency problem**
59. All of the following are security tools EXCEPT **constraints**
60. The default method of doing joins is **nested loops**
61. Constructing a temporary table to use for the next operation is called **materialization**
62. Materializing views means **precomputing them and storing them**
63. The following system is ideal for representing large, sparsely-populated tables that have a need for real-time, read-write random access. **HBase**
64. If NAME contains character string data, to retrieve only records in which NAME begins with M and ends with 'ton', we use the SQL SELECT specification WHERE NAME LIKE '**M%ton**'
65. To find rows of the Employee table that have no value for rating, use the SQL predicate **WHERE RATING IS NULL**