

Database Technology

1. What is a database?

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2. What is RDBMS?

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3. Difference between DBMS and RDBMS with examples.

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4. What is normalization? Explain advantages and disadvantages of it.

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5. Explain the First Normal Form with example.

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6. Explain the Second Normal Form with example.

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7. Explain the Third Normal Form with example.

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8. Explain 4th Normal form with example.

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9. Explain 5th Normal form with example.

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10. Explain CODD's rules?

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11. What is De-Normalization? Explain advantages and disadvantages of it?

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12. What is BCNF?

13. What is Entity Integrity?

14. What is Referential Integrity?

15. What is Entity Relationship Diagram?

16. What could be the three types of relationships between 2 possible entities?

17. What is Structured Query Language?

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18. What are the categories/ different types of SQL commands?

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19. Which categories of SQL commands cause an Implicit Commit?

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20. Name the commands in the DDL category.

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21. Name the commands in the DML category.

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22. Name the commands in the DQL category.

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23. Name the commands in the DCL category.

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24. Name the commands in the TCL category.

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25. Explain different Storages engines in MySQL?

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26. Explain different types of Constraints?

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27. What is difference between Primary Key and Foreign Key?

28. When does implicit commit happen?

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29. When does implicit rollback happen?

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30. Explain the ORDER BY clause.

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31. What is the difference between GROUP/AGGREGATE functions and SINGLE-ROW functions?

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32. Explain the TRUNCATE command.

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33. What is the difference between DELETE and TRUNCATE commands?

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34. Explain what happens when GROUP functions are used without GROUP BY clause.

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35. What is the HAVING clause?

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36. What is difference between WHERE and HAVING clauses?

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37. What is a column-level constraints?

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38. Does a CHECK constraint by itself allow NULL values?

39. How many PRIMARY-KEY constraints can we have on a table?

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40. What is the difference between UNIQUE key and PRIMARY key constraints?

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41. Differentiate between CHAR and VARCHAR2 datatypes.

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42. What are the 3 flavours of the NUMBER datatype?

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43. Why do we need JOINS?

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44. What are the different types of Joins? Explain each.

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45. What are SUB-queries?

46. What is an INLINE view?

47. What are MULTI-ROW comparison operators? Name them.

48. What are views? Why do we use views?

49. Difference between SIMPLE and COMPLEX views.

50. What happens to a view when one or more table on which the view is based are dropped?

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51. When INDEXES are implicitly created and they are of what type: UNIQUE or NON-UNIQUE.

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52. What is a DEFAULT value for a column of a table?

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53. When do default values set for a column of a table come into picture?

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54. What is the datatype of the value obtained when you subtract a date value from another date value?

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55. Does GROUP BY clause ignore NULL values?

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56. Do GROUP or AGGREGATE Functions ignore NULL values?

57. Which is the special operator used for performing a comparison with NULL values?

58. What is the order of precedence between OR, NOT and AND logical operators

59. What is the order of precedence between ARITHMETIC, COMPARISON and LOGICAL operators?

60. Name and Explain a few single-row CHARACTER functions.

61. Name and Explain a few single-row NUMERIC functions.

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62. Name and Explain a few single-row DATE function.

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63. Name and Explain a few single-row MISCELLANEOUS functions.

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64. Why do we need PLSQL?

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65. What are the 3 sections of a PLSQL block? Which is the mandatory section of a PLSQL block?

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66. How do we initialize a variable with a value in the declaration section in PLSQL?

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67. How do we declare a CONSTANT in the declaration section?

68. What is NOT NULL variable? How do we declare a NOT NULL variable in PLSQL?

69. Can we declare a CONSTANT without an initial value.

70. Can we declare a NOT NULL without an initial value.

71. What is local or record type in a PLSQL block?

72. What are the different types of blocks in PLSQL?

73. What are the 3 types of loops in PLSQL?

74. What is a CURSOR?

75. What is an EXPLICIT CURSOR?

76. What is an IMPLICIT CURSOR?

77. What are the 4 cursor attributes?

78. What are the 3 types of EXCEPTIONS?

79. Which types of exceptions are implicitly raised?

80. What happens to the uncommitted DMLs in a block when the block has terminated with FAILURE?

81. What happens to the uncommitted DMLs in a block when the block has terminated with SUCCESS?

82. Where can we handle the exceptions that have occurred in the declaration section of a block?