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| 1. Normalization works through a series of stages called normal forms.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 2. Normalization is a process that is used for changing attributes to entities.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 3. In order to meet performance requirements, portions of the database design may need to be occasionally denormalized.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: - Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 4. Denormalization produces a lower normal form.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 5. Normalization is a very important database design ingredient, and the highest level is always the most desirable.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic - BUSPROG: Analytic skills: Statistics and Management Science | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Comprehension | |

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| 6. Reporting anomalies in a table can cause a multitude of problems for managers and can be fixed through application programming.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 205 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-2 - LO6-2 | | *NATIONAL STANDARDS:* | United States - BUSPROG: - Analytic | | *TOPICS:* | The Need For Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 7. Data redundancy produces data anomalies.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 206 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-2 - LO6-2 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Need For Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 8. The objective of normalization is to ensure that each table conforms to the concept of well-formed relations.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 206 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 9. Relational models view data as part of a table or collection of tables in which all key values must be identified.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 208 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 10. Repeating groups must be eliminated by ensuring that each row defines a single entity.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 208 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 11. A dependency of one nonprime attribute on another nonprime attribute is a partial dependency.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 210 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 12. Dependency diagrams are very helpful in getting a bird’s-eye view of all the relationships among a table’s attributes.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 210 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 13. Dependencies that are based on only a part of a composite primary key are called transitive dependencies.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 210 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 14. All relational tables satisfy the 1NF requirements.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 211 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 15. In the context of partial dependencies, data redundancies occur because every row entry requires duplication of data.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 211 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 16. Since a partial dependency can exist only if a table's primary key is composed of several attributes, if a table in 1NF has a single-attribute primary key, then the table is automatically in 2NF.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | p. 212 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic - BUSPROG: Analytic skills: Statistics and Management Science | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Comprehension | |

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| 17. It is possible for a table in 2NF to exhibit transitive dependency, where the primary key may rely on one or more nonprime attributes to functionally determine other nonprime attributes.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | p. 212 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic - BUSPROG: Analytic skills: Statistics and Management Science | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Comprehension | |

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| 18. A determinant is any attribute whose value determines other values within a column.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 213 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 19. Data stored at their highest level of granularity are said to be atomic data.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 216 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-4 - LO6-4 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Improving the Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 20. Atomic attributes are attributes that can be further subdivided.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 216 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-4 - LO6-4 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Improving the Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 21. A table is in BCNF if every determinant in the table is a foreign key.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 226 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Higher-Level Normal Forms | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 22. A table is in fourth normal form if it is in third normal form and has no independent multivalued dependencies.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 226 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Higher-Level Normal Forms | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 23. Normalization represents a micro view of the entities within the ERD.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 226 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-7 - LO6-7 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Normalization and Database Desgn | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 24. The combination of normalization and ER modeling yields a useful ERD, whose entities can be translated into appropriate relationship structures.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 229 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-7 - LO6-7 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Normalization and Database Desgn | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 25. A good relational DBMS excels at managing denormalized relations.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 229 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-8 - LO6-8 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Denormalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 26. The advantage of higher processing speed must be carefully weighed against the disadvantage of data anomalies.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 229 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-8 - LO6-8 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Denormalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 27. Normalization purity is often easy to sustain in the modern database environment.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 231 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-8 - LO6-8 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Denormalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 28. Unnormalized database tables often lead to various data redundancy disasters in production databases.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 232 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-8 - LO6-8 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Denormalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 29. Attributes should clearly define participation, connectivity, and document cardinality.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 233 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-9 - LO6-9 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Data-Modeling Checklist | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 30. Normalization works through a series of stages called normal forms. For most purposes in business database design, \_\_\_\_\_ stages are as high as you need to go in the normalization process.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | two | b. | three | |  | c. | four | d. | five |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 31. From a structural point of view, 3NF is better than \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 4NF | b. | 2NF | |  | c. | 5NF | d. | 6NF |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 32. From a structural point of view, 2NF is better than \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 1NF | b. | 3NF | |  | c. | 4NF | d. | BCNF |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: - Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 33. An attribute that is part of a key is known as a(n) \_\_\_\_\_ attribute.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | important | b. | nonprime | |  | c. | prime | d. | entity |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 34. A table that displays data redundancies yields \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | consistencies | b. | anomalies | |  | c. | fewer attributes | d. | more entities |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 205 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-2 - LO6-2 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Need For Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 35. Data redundancy produces \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | slower lookups | b. | robust design | |  | c. | efficient storage use | d. | data integrity problems |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 206 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-2 - LO6-2 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Need For Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 36. Attribute A \_\_\_\_\_ attribute B if all of the rows in the table that agree in value for attribute A also agree in value for attribute B.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | determines | b. | derives from | |  | c. | controls | d. | owns |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | p. 207 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic - BUSPROG: Analytic skills: Statistics and Management Science | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Comprehension | |

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| 37. Some very specialized applications may require normalization beyond the \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 1NF | b. | 2NF | |  | c. | 3NF | d. | 4NF |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 207 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 38. Of the following normal forms, \_\_\_\_\_ is mostly of theoretical interest.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 1NF | b. | 3NF | |  | c. | BCNF | d. | DKNF |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 207 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 39. A table that has all key attributes defined, has no repeating groups, and all its attributes are dependent on the primary key is said to be in \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 1NF | b. | 2NF | |  | c. | 3NF | d. | 4NF |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 207 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 40. A(n) \_\_\_\_\_ exists when there are functional dependencies such that XY is functionally dependent on WZ, X is functionally dependent on W, and XY is the primary key.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | atomic attribute | b. | repeating group | |  | c. | partial dependency | d. | transitive dependency |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 207 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 41. A(n) \_\_\_\_\_ exists when there are functional dependencies such that Y is functionally dependent on X, Z is functionally dependent on Y, and X is the primary key.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | partial dependency | b. | repeating group | |  | c. | atomic attribute | d. | transitive dependency |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 208 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 42. A \_\_\_\_\_ derives its name from the fact that a collection of multiple entries of the same type can exist for any single key attribute occurrence.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | partial dependency | b. | transitive dependency | |  | c. | repeating group | d. | primary key |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 208 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 43. A relational table must not contain a(n) \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | entity | b. | attribute | |  | c. | relationship | d. | repeating group |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 208 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 44. In a(n) \_\_\_\_\_ diagram, the arrows above the attributes indicate all desirable dependencies.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | Chen | b. | dependency | |  | c. | functionality | d. | ER |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 210 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 45. Dependencies based on only a part of a composite primary key are known as \_\_\_\_\_ dependencies.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | primary | b. | partial | |  | c. | incomplete | d. | composite |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 211 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 46. If a table has multiple candidate keys and one of those candidate keys is a composite key, the table can have \_\_\_\_\_ based on this composite candidate key even when the primary key chosen is a single attribute.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | Boyce-Codd normal forms | b. | redundancies | |  | c. | time-variances | d. | partial dependencies |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 215 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 47. A table that is in 2NF and contains no transitive dependencies is said to be in \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 1NF | b. | 2NF | |  | c. | 3NF | d. | 4NF |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 215 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 48. Improving \_\_\_\_\_ leads to more flexible queries.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | atomicity | b. | normalization | |  | c. | denormalization | d. | derived attribute |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 216 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-4 - LO6-4 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Improving the Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 49. An atomic attribute \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | cannot exist in a relational table | b. | cannot be further subdivided | |  | c. | displays multiplicity | d. | is always chosen to be a foreign key |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 216 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-4 - LO6-4 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Improving the Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 50. The most likely data type for a surrogate key is \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | character | b. | date | |  | c. | logical | d. | numeric |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 216 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-4 - LO6-4 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Improving the Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 51. Granularity refers to \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | the size of a table | b. | the level of detail represented by the values in a table's row | |  | c. | the number of attributes represented in a table | d. | the number of rows in a table |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 216 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-4 - LO6-4 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Improving the Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 52. From a system functionality point of view, \_\_\_\_\_ attribute values can be calculated when they are needed to write reports or invoices.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | derived | b. | atomic | |  | c. | granular | d. | historical |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 217 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-4 - LO6-4 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Improving the Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 53. In a real-world environment, we must strike a balance between design integrity and \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | robustness | b. | flexibility | |  | c. | uniqueness | d. | ease of use |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 220 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-5 - LO6-5 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Surrogate Key Considerations | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 54. For most business transactional databases, we should normalize relations into \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 1NF | b. | 2NF | |  | c. | 3NF | d. | 6NF |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 220 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-6 - LO6-6 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Higher-Level Normal Forms | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 55. To generate a surrogate key, Microsoft Access uses a(n) \_\_\_\_\_ data type.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | character | b. | sequence | |  | c. | AutoNumber | d. | identity |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 220 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-5 - LO6-5 | | *NATIONAL STANDARDS:* | United States - BUSPROG: - Analytic | | *TOPICS:* | Surrogate Key Considerations | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 56. A table where every determinant is a candidate key is said to be in \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | BCNF | b. | 2NF | |  | c. | 1NF | d. | 4NF |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 221 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-6 - LO6-6 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Higher-Level Normal Forms | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 57. BCNF can be violated only if the table contains more than one \_\_\_\_\_ key.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | primary | b. | candidate | |  | c. | foreign | d. | secondary |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 221 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-6 - LO6-6 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Higher-Level Normal Forms | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 58. When a table contains only one candidate key, \_\_\_\_\_ are considered to be equivalent.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | the 1NF and the 2NF | b. | the 3NF and the BCNF | |  | c. | the 4NF and the 3NF | d. | the BCNF and the DKNF |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 221 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-6 - LO6-6 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Higher-Level Normal Forms | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 59. In a \_\_\_\_\_ situation, one key determines multiple values of two other attributes and those attributes are independent of each other.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | multivalued dependency | b. | transitive dependency | |  | c. | partial dependency | d. | functional dependency |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 225 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-6 - LO6-6 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Higher-Level Normal Forms | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 60. A table where all attributes are dependent on the primary key but are independent of each other, and no row contains two or more multivalued facts about an entity is said to be in \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 1NF | b. | 2NF | |  | c. | 3NF | d. | 4NF |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 226 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-6 - LO6-6 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Higher-Level Normal Forms | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 61. A table is in 4NF if it is in 3NF, and \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | all attributes must be dependent on the primary key and must be dependent on each other | |  | b. | all attributes are unrelated | |  | c. | it has no multivalued dependencies | |  | d. | no column contains the same values |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 226 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-6 - LO6-6 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Higher-Level Normal Forms | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 62. When designing a database, you should \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | make sure that entities are in normal form before table structures are created | |  | b. | create table structures then normalize the database | |  | c. | only normalize the database when performance problems occur | |  | d. | consider more important issues such as performance before normalizing |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | p. 226 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-7 - LO6-7 | | *NATIONAL STANDARDS:* | United States - BUSPROG:Analytic | | *TOPICS:* | Normalization and Database Design | | *KEYWORDS:* | Bloom's: Comprehension | |

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| 63. An example of denormalization is using a \_\_\_\_\_ denormalized table to hold report data. This is required when creating a tabular report in which the columns represent data that are stored in the table as rows.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | transitive | b. | 3NF | |  | c. | component | d. | temporary |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 231 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-8 - LO6-8 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Denormalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 64. The conflicts between design efficiency, information requirements, and performance are often resolved through \_\_\_\_\_.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | compromises that include normalization | b. | conversion from 2NF to 3NF | |  | c. | compromises that include denormalization | d. | conversion from 3NF to 4NF |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 231 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-8 - LO6-8 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Denormalization | | *KEYWORDS:* | Bloom's: Comprehension | |

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| 65. Data warehouse routinely uses \_\_\_\_\_ structures in its complex, multilevel, multisource data environment.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 1NF | b. | 2NF | |  | c. | 3NF | d. | 4NF |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 232 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-8 - LO6-8 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Denormalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 66. \_\_\_\_\_ databases reflect the ever-growing demand for greater scope and depth in the data on which decision support systems increasingly rely.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | Normalized | b. | Data warehouse | |  | c. | Temporary | d. | Report |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 232 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-8 - LO6-8 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Denormalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 67. If database tables are treated as though they were files in a file system, the \_\_\_\_\_ never has a chance to demonstrate its superior data-handling capabilities.   |  |  | | --- | --- | | *ANSWER:* | RDBMS  relational database management system  relational database management system (RDBMS)  RDBMS (relational database management system) | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Database and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 68. The price paid for increased performance through denormalization is a larger amount of \_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | redundancy  data redundancy | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 69. In order to meet \_\_\_\_\_ requirements, you may have to denormalize some portions of a database design.   |  |  | | --- | --- | | *ANSWER:* | performance | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 70. \_\_\_\_\_ is a process to help reduce the likelihood of data anomalies.   |  |  | | --- | --- | | *ANSWER:* | Normalization | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 71. Any attribute that is at least part of a key is known as a \_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | prime attribute  key attribute | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 72. When designing a new database structure based on the business requirements of the end users, the database designer will construct a data model using a technique such as \_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | Crow's Foot notation ERDs | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-2 - LO6-2 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 73. The \_\_\_\_\_ is central to a discussion of normalization.   |  |  | | --- | --- | | *ANSWER:* | concept of keys | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 206 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: - Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 74. A dependency based on only a part of a composite primary key is called a \_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | partial dependency | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 210 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 75. The problem with transitive dependencies is that they still yield data \_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | anomalies | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 210 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 76. All relational tables satisfy the \_\_\_\_\_ requirements.   |  |  | | --- | --- | | *ANSWER:* | 1NF  first normal form  first normal form (1NF)  1NF (first normal form) | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 211 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 77. Because a partial dependency can exist only when a table's primary key is composed of several attributes, a table whose \_\_\_\_\_ key consists of only a single attribute is automatically in 2NF once it is in 1NF.   |  |  | | --- | --- | | *ANSWER:* | primary | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 212 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 78. Any attribute whose value determines other values within a row is known as a \_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | determinant | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 213 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 79. An attribute that cannot be further subdivided is said to display \_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | atomicity | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 216 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-4 - LO6-4 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Improving The Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 80. \_\_\_\_\_ refers to the level of detail represented by the values stored in a table's row.   |  |  | | --- | --- | | *ANSWER:* | Granularity | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 216 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-4 - LO6-4 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Improving The Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 81. In a real-world environment, changing granularity requirements might dictate changes in primary key selection, and those changes might ultimately require the use of \_\_\_\_\_ keys.   |  |  | | --- | --- | | *ANSWER:* | surrogate | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 217 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-4 - LO6-4 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Improving The Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 82. It becomes difficult to create a suitable \_\_\_\_\_ key when the related table uses a composite primary key.   |  |  | | --- | --- | | *ANSWER:* | foreign | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 219 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-5 - LO6-5 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Surrogate Key Considerations | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 83. When a nonkey attribute is the determinant of a key attribute, the table is in 3NF but not in \_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | BCNF  Boyce-Codd normal form  Boyce-Codd normal form (BCNF)  BCNF (Boyce-Codd normal form) | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 221 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-6 - LO6-6 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Surrogate Key Considerations | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 84. In the \_\_\_\_\_, no row may contain two or more multivalued facts about an entity.   |  |  | | --- | --- | | *ANSWER:* | 4NF  fourth normal form  fourth normal form (4NF)  4NF (fourth normal form) | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 226 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-6 - LO6-6 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Higher-Level Normal Forns | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 85. An ERD is created through an \_\_\_\_\_ process.   |  |  | | --- | --- | | *ANSWER:* | iterative | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 226 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-7 - LO6-7 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Normalization and Database Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 86. The combination of \_\_\_\_\_ and ER modeling yields a useful ERD, whose entities may now be translated into appropriate table structures.   |  |  | | --- | --- | | *ANSWER:* | normalization | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 229 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-7 - LO6-7 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Normalization and Database Design | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 87. Unnormalized tables yield no simple strategies for creating virtual tables known as \_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | views | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty:Easy | | *REFERENCES:* | p. 232 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-8 - LO6-8 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Denormalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 88. According to the data-modeling checklist, \_\_\_\_\_ should be nouns that are familiar to business, should be short and meaningful, and should document abbreviations, synonyms, and aliases for each entity.   |  |  | | --- | --- | | *ANSWER:* | entity names | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Easy | | *REFERENCES:* | p. 233 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-9 - LO6-9 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic | | *TOPICS:* | Data-Modeling Checklist | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 89. Explain normalization and its different forms.   |  |  | | --- | --- | | *ANSWER:* | Normalization is a process for evaluating and correcting table structures to minimize data redundancies, thereby reducing the likelihood of data anomalies. The normalization process involves assigning attributes to tables based on the concept of determination. Normalization works through a series of stages called normal forms. The first three stages are described as first normal form (1NF), second normal form (2NF), and third normal form (3NF). From a structural point of view, 2NF is better than 1NF, and 3NF is better than 2NF. For most purposes in business database design, 3NF is as high as you need to go in the normalization process. However, you will discover that properly designed 3NF structures also meet the requirements of fourth normal form (4NF). | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | p. 202 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-1 - LO6-1 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic - BUSPROG: Analytic skills: Statistics and Management Science | | *TOPICS:* | Database Tables and Normalization | | *KEYWORDS:* | Bloom's: Knowledge | |

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| 90. What characteristics do tables that conform to the concept of well-informed relations have?   |  |  | | --- | --- | | *ANSWER:* | Tables that conform to the concept of well-informed relations have the following characteristics:   1. Each table represents a single subject. 2. No data item will be unnecessarily stored in more than one table. This results in tables that have lower redundancies. The reason for this requirement is to ensure that the data is updates in only one place. 3. All nonprime attributes in a table are dependent on the primary key alone. The reason for this requirement is to ensure that the data is uniquely identifiable by a primary key value. 4. Each table is void of insertion, update, or deletion anomalies, which ensure the integrity and consistency of the data. | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | p. 206 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic - BUSPROG: Analytic skills: Statistics and Management Science | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Comprehension | |

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| 91. Describe a dependency diagram and explain its purpose.   |  |  | | --- | --- | | *ANSWER:* | Dependency diagrams are very helpful in getting a bird’s eye view of all the relationships among a table’s attributes, and their use makes it less likely that you will overlook an important dependency.  The following are features of a dependency diagram:   1. The primary key attributes are bold, underlined, and shaded in a different color. 2. The arrows above the attributes indicate all desirable dependencies—that is, dependencies based on the primary key. 3. The arrows below the dependency diagram indicate less desirable dependencies. Two types of such dependencies exist: a. Partial dependencies. A dependency based on only a part of a composite primary key is a partial dependency. b. Transitive dependencies. A transitive dependency is a dependency of one nonprime attribute on another nonprime attribute. The problem with transitive dependencies is that they still yield data anomalies. | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | p. 210 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic - BUSPROG: Analytic skills: Statistics and Management Science | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Comprehension | |

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| 92. What steps are involved in the conversion to third normal form?   |  |  | | --- | --- | | *ANSWER:* | Step 1: Make New Tables to Eliminate Transitive Dependencies  For every transitive dependency, write a copy of its determinant as a primary key for a new table. A determinant is any attribute whose value determines other values within a row. If you have three different transitive dependencies, you will have three different determinants. As with the conversion to 2NF, it is important for the determinant remain in the original table to serve as a foreign key.  Step 2: Reassign Corresponding Dependent Attributes  Identify the attributes that are dependent on each determinant identified in Step 1. Place the dependent attributes in the new tables with their determinants and remove them from their original tables. | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | p. 213 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-3 - LO6-3 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic - BUSPROG: Analytic skills: Statistics and Management Science | | *TOPICS:* | The Normalization Process | | *KEYWORDS:* | Bloom's: Comprehension | |

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| 93. Explain the Boyce-Codd normal form (BCNF). How is it related to other normal forms?   |  |  | | --- | --- | | *ANSWER:* | A table is in Boyce-Codd normal form (BCNF) when every determinant in the table is a candidate key. A candidate key has the same characteristics as a primary key, but for some reason, it was not chosen to be the primary key. Clearly, when a table contains only one candidate key, the 3NF and the BCNF are equivalent. In other words, BCNF can be violated only when the table contains more than one candidate key. Most designers consider the BCNF to be a special case of the 3NF. In fact, if the techniques shown in this chapter are used, most tables conform to the BCNF requirements once the 3NF is reached. | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficulty: Moderate | | *REFERENCES:* | p. 221 | | *LEARNING OBJECTIVES:* | DATA.CORO.15.LO6-6 - LO6-6 | | *NATIONAL STANDARDS:* | United States - BUSPROG: Analytic - BUSPROG: Analytic skills: Statistics and Management Science | | *TOPICS:* | Higher-Level Normal Forms | | *KEYWORDS:* | Bloom's: Comprehension | |