**True/False**

*Indicate whether the statement is true or false.*

*Please ignore the question number if they are not in sequenced*

\_\_\_\_ 1. Data constitute the building blocks of information.

\_\_\_\_ 2. Accurate, relevant, and timely information is the key to good decision making.

\_\_\_\_ 3. Metadata provide the description of the data characteristics but do not describe the set relationships that link the data found within the database.

\_\_\_\_ 7. Data modeling is usually skipped due to time constraints.

\_\_\_\_ 8. In a relational table, each row/column intersection represents a single data value.

\_\_\_\_ 9. In a relational table, each value in a column must conform to the same data format.

\_\_\_\_ 9. Data inconsistency exists when different and conflicting versions of the same data appear in different places.

\_\_\_\_ 15. A database that is primarily designed to support a company’s day-to-day operations is called a data warehouse

\_\_\_\_ 9. There are five types of relationships that exist between entities.

\_\_\_\_ 11. Business rules help you determine the relationships that exist between entities.

\_\_\_\_ 14. A key consists of one or more attributes that determine other attributes.

\_\_\_\_ 15. Numeric data are data on which you can perform meaningful arithmetic procedures.

\_\_\_\_ 21. Functional dependence can be defined most easily as the attribute A is functionally dependent on B if A determines B.

\_\_\_\_ 6. Repeating groups must be eliminated by making sure that each row defines a single entity.

\_\_\_\_ 10. Cardinality expresses the specific number of entity occurrences associated with one occurrence of the related entity.

\_\_\_\_ 18. Ideally, a primary key is composed of several attributes.

\_\_\_\_ 25. Connectivities and cardinalities are established by business rules.

\_\_\_\_ 11. Attributes do not have a domain.

\_\_\_\_ 12. Attributes may not share a domain.

\_\_\_\_ 20. All simple attributes are also single-valued.

\_\_\_\_ 11. All SQL commands must be issued on a single line.

\_\_\_\_ 13. A table is in 2NF if it is in 1NF and it includes no partial dependencies.

\_\_\_\_ 14. It is possible for a table in 2NF to exhibit transitive dependency, where one or more attributes may be functionally dependent on non-key attributes.

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

\_\_\_\_ 45. Which of the following is NOT a data anomaly?

|  |  |
| --- | --- |
| a. | Modification |
| b. | Insertion |
| c. | Deletion |
| d. | Create |

\_\_\_\_ 42. An ad hoc query is a \_\_\_\_.

|  |  |
| --- | --- |
| a. | pre-scheduled question |
| b. | spur-of-the-moment question |
| c. | pre-planned question |
| d. | question that will not return any results |

\_\_\_\_ 52. A raw fact, such as an invoice date, is known as \_\_\_\_.

|  |  |
| --- | --- |
| a. | information |
| b. | a relationship |
| c. | a record |
| d. | data |

\_\_\_\_ 58. All of these are true about a database except:

|  |  |
| --- | --- |
| a. | it is a shared, integrated structure |
| b. | it stores user data |
| c. | it must contain multiple tables |
| d. | it stores metadata |

\_\_\_\_ 62. All of the following are true about data redundancy except:

|  |  |
| --- | --- |
| a. | results in data inconsistency |
| b. | may result in data anomalies |
| c. | occur very infrequently in relational databases  |
| d. | is good if used in a controlled manner |

\_\_\_\_ 58. Which attribute(s) make up the primary key in the table definition:

CLASS (CRS\_CODE, CLASS\_SECTION, CLASS\_TIME, CLASS\_ROOM, PROF\_NUM)

|  |  |
| --- | --- |
| a. | CRS\_CODE |
| b. | CLASS\_SECTION |
| c. | CRS\_CODE and CLASS\_SECTION |
| d. | There is no primary key |

\_\_\_\_ 46. If an entity’s existence depends on the existence of one or more other entities, it is said to be \_\_\_\_-dependent.

|  |  |
| --- | --- |
| a. | existence |
| b. | relationship |
| c. | business |
| d. | weak |

\_\_\_\_ 33. One of the advantages of a relational database model is \_\_\_\_.

|  |  |
| --- | --- |
| a. | structural dependence |
| b. | conceptual complexity |
| c. | easier database design |
| d. | complex database design |

\_\_\_\_ 66. SQL is:

|  |  |
| --- | --- |
| a. | a structured query language |
| b. | a sequencing query language |
| c. | a sequencing query listing |
| d. | a structured query listing |

\_\_\_\_ 52. Each row in the relational table is known as an entity \_\_\_\_.

|  |  |
| --- | --- |
| a. | instance |
| b. | relationship |
| c. | attribute |
| d. | model |

\_\_\_\_ 60. A data model must represent the \_\_\_\_ world as closely as possible.

|  |  |
| --- | --- |
| a. | machine |
| b. | logical |
| c. | real |
| d. | abstract |

\_\_\_\_ 75. Which of the following is least likely to be a business rule as relates to data modeling?

|  |  |
| --- | --- |
| a. | A customer may make many payments on an account. |
| b. | A machine operator may not work more than 10 hours in a 24-hour period. |
| c. | A training session cannot be scheduled for fewer than 10 employees or more than 30 employees. |
| d. | Casual Fridays take place in the summer. |

\_\_\_\_ 32. The entity integrity rule requires that \_\_\_\_.

|  |  |
| --- | --- |
| a. | all primary key entries are unique |
| b. | a part of the key may be null |
| c. | foreign key values do not reference primary key values |
| d. | duplicate object values are allowed |

\_\_\_\_ 54. Attributes may share a:

|  |  |
| --- | --- |
| a. | relationship |
| b. | domain |
| c. | location |
| d. | data |

\_\_\_\_ 55. The set of possible values for an attribute is a \_\_\_\_.

|  |  |
| --- | --- |
| a. | domain |
| b. | range |
| c. | set |
| d. | key |

\_\_\_\_ 56. In an ER diagram, primary keys are indicated by \_\_\_\_.

|  |  |
| --- | --- |
| a. | bolding |
| b. | italics |
| c. | underlining |
| d. | a special font |

\_\_\_\_ 34. Data are classified, according to their format and function, into which categories?

|  |  |
| --- | --- |
| a. | Numeric and character |
| b. | Numeric and logical |
| c. | Numeric, character, and date |
| d. | Numeric, character, date, and logical (Boolean) |

\_\_\_\_ 42. A table can be logically connected to another table by defining a \_\_\_\_.

|  |  |
| --- | --- |
| a. | hyperlink |
| b. | common attribute (FK) |
| c. | primary key |
| d. | logic key |

\_\_\_\_ 46. In a relationship, when a primary key from one table is also defined in a second table, the field is referred to as a \_\_\_\_ in the second table.

|  |  |
| --- | --- |
| a. | combined key |
| b. | redundant field |
| c. | primary key |
| d. | foreign key |

\_\_\_\_ 48. A primary key that consists of more than one field is called a \_\_\_\_ key.

|  |  |
| --- | --- |
| a. | composite |
| b. | secondary |
| c. | group |
| d. | foreign |

\_\_\_\_ 33. The referential integrity rule requires that \_\_\_\_.

|  |  |
| --- | --- |
| a. | every null foreign key value must reference an existing primary key value |
| b. | an attribute have a corresponding value |
| c. | every non-null foreign key value reference an existing primary key value |
| d. | you delete a row in one table whose primary key does not have a matching foreign key value in another table |

\_\_\_\_ 53. Which of the following is NOT an allowable operation for a date field?

|  |  |
| --- | --- |
| a. | Compare two dates |
| b. | Multiply two dates |
| c. | Convert a date from its internal representation to a different presentation format |
| d. | Create a date by adding or subtracting a number of days from a given date |

\_\_\_\_ 55. In the context of a database table, the statement “A determines B” indicates that \_\_\_\_.

|  |  |
| --- | --- |
| a. | knowing the value of attribute A, you cannot look up the value of attribute B |
| b. | you do not need to know the value of attribute A in order to look up the value of attribute B |
| c. | knowing the value of attribute B, you can look up the value of attribute A |
| d. | knowing the value of attribute A, you can look up the value of attribute B |

\_\_\_\_ 59. In a sophisticated application development software, nulls can create problems when using functions such as:

|  |  |
| --- | --- |
| a. | COUNT |
| b. | SUM |
| c. | COUNT and AVERAGE |
| d. | COUNT, SUM, and AVERAGE |

\_\_\_\_ 69. An attribute (or combination of attributes) in one table whose values must either match the primary key in another table or be null is called a \_\_\_\_ key.

|  |  |
| --- | --- |
| a. | foreign |
| b. | candidate |
| c. | primary |
| d. | secondary |

\_\_\_\_ 71. The link between two tables can be described by observing that it is created when \_\_\_\_.

|  |  |
| --- | --- |
| a. | two tables share an attribute with common values |
| b. | two tables share different attributes |
| c. | a primary key of one table appears as a foreign key in a related table |
| d. | a & c |

\_\_\_\_ 42. A \_\_\_\_ attribute is one that cannot be subdivided.

|  |  |
| --- | --- |
| a. | Composite  |
| b. | Simple  |
| c. | single-valued  |
| d. | Multivalued  |

\_\_\_\_ 43. A \_\_\_\_ attribute can have only one value.

|  |  |
| --- | --- |
| a. | composite |
| b. | simple |
| c. | single-valued |
| d. | multivalued |

\_\_\_\_ 49. A \_\_\_\_ relationship exists when an association is maintained within a single entity.

|  |  |
| --- | --- |
| a. | Unary  |
| b. | ternary |
| c. | binary |
| d. | weak |

\_\_\_\_ 38. 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. | 2N |
| c. | 3NF |
| d. | UNF |

\_\_\_\_ 39. A table that is in 1NF and includes no partial dependencies only is said to be in \_\_\_\_.

|  |  |
| --- | --- |
| a. | 1NF |
| b. | 2NF |
| c. | 3NF |
| d. | UNF |

\_\_\_\_ 54. The basic SQL aggregate function that gives the number of rows containing not null values for the given column is \_\_\_\_.

|  |  |
| --- | --- |
| a. | COUNT |
| b. | MIN |
| c. | MAX |
| d. | SUM |

\_\_\_\_ 55. The basic SQL aggregate function that gives the total of all values for a selected attribute in a given column is \_\_\_\_.

|  |  |
| --- | --- |
| a. | COUNT |
| b. | MIN |
| c. | MAX |
| d. | SUM |

\_\_\_\_ 56. The basic SQL aggregate function that gives the arithmetic mean for the specific column is \_\_\_\_.

|  |  |
| --- | --- |
| a. | COUNT |
| b. | AVG |
| c. | MAX |
| d. | SUM |

\_\_\_\_ 75. What happens when you issue the DELETE FROM tablename command without specifying a where condition?

|  |  |
| --- | --- |
| a. | no rows will be deleted |
| b. | the first row will be deleted |
| c. | the last row will be deleted |
| d. | all rows will be deleted |

\_\_\_\_ 76. The \_\_\_\_ keyword is used to assign a column alias.

|  |  |
| --- | --- |
| a. | LET |
| b. | SET |
| c. | AS |
| d. | ALIAS |

\_\_\_\_ 42. Which query will output the table contents when the value of V\_CODE is not equal to 21344?

|  |  |
| --- | --- |
| a. | SELECT P\_DESCRIPT, P\_INDATE, P\_PRICE, V\_CODE FROM PRODUCT WHERE V\_CODE <> 21344;  |
| b. | SELECT P\_DESCRIPT, P\_INDATE, P\_PRICE, V\_CODE FROM PRODUCT WHERE V\_CODE <= 21344; |
| c. | SELECT P\_DESCRIPT, P\_INDATE, P\_PRICE, V\_CODE FROM PRODUCT WHERE V\_CODE = 21344; |
| d. | SELECT P\_DESCRIPT, P\_INDATE, P\_PRICE, V\_CODE FROM PRODUCT WHERE V\_CODE => 21344; |

\_\_\_\_ 45. Which mainframe query command will list all the rows in which the inventory stock dates occur on or after January 20, 2006?

|  |  |
| --- | --- |
| a. | SELECT P\_DESCRIPT, P\_QOH, P\_MIN, P\_PRICE, P\_INDATE FROM PRODUCT WHERE P\_INDICATE >= '01/20/2006' |
| b. | SELECT P\_DESCRIPT, P\_QOH, P\_MIN, P\_PRICE, P\_INDATE FROM PRODUCT WHERE P\_INDICATE >= #01/20/2006# |
| c. | SELECT P\_DESCRIPT, P\_QOH, P\_MIN, P\_PRICE, P\_INDATE FROM PRODUCT WHERE P\_INDICATE > '20-JAN-2006' |
| d. | SELECT P\_DESCRIPT, P\_QOH, P\_MIN, P\_PRICE, P\_INDATE FROM PRODUCT WHERE P\_INDICATE = > {01-20-2006} |

\_\_\_\_ 46. Which query will execute successfully?

|  |  |
| --- | --- |
| a. | Insert into Student (‘S001’, ‘Ali’, ‘Male’, ‘Kuala Lumpur’); |
| b. | Select Count(StaffNo), BranchNo from Staff group by Branchno order by Branchno; |
| c. | SELECT \* FROM Member WHERE Country = (‘Germany’, ‘France’, ‘UK’); |
| d. | Update Product Set Price = 500 where Name = ‘Keyboard’ order by Name; |