CHAPTER 1

1) Which of the following statements about ERP systems is true?
   A. Most ERP software implementations fully achieve seamless integration.
   B. Some ERP software packages are themselves combinations of separate applications for manufacturing, materials resource planning, general ledger, human resources, procurement, and order entry.
   C. A specific enterprise software package implemented uniformly throughout an enterprise is likely to contain very flexible connections to allow changes and software variations.
   D. ERP systems are designed primarily for small businesses.
   E. Integration of ERP systems can be achieved in only one way.

2) Which of the following is FALSE with regard to an integrated enterprise information system?
   A. An integrated enterprise information system is a set of communication channels in a business organization.
   B. The goal of an integrated enterprise information system is to form one network by which information is gathered and disseminated.
   C. Redundancy in an integrated information system can lead to data inconsistency.
   D. Integration can be achieved in only one way.
   E. Some ERP software packages are themselves combinations of separate applications for manufacturing, materials resource planning, general ledger, human resources, procurement, and order entry.

3) Which of the following is used to solve the problem of stovepiped departments?
   A. Encouragement of interdepartmental interactions.
   B. Reengineering of traditional departments and focus on workflow processes.
   C. Assign building space such that people in the same department are all in the same physical location.
   D. Both A and B
   E. Both B and C

4) Which of the following often result from reengineering?
   A. Streamlined workflow
   B. Reduced head count
   C. Consolidation of disparate information systems to eliminate duplication of efforts in various activities
   D. All of the above
   E. None of the above

5) Geerts and McCarthy's proposed expansion of the REA accounting model presumes that base objects in an enterprise information system should...
   A. Reflect the underlying activities in which an enterprise engages.
   B. Reflect aggregations of numbers needed for decision-making needs within the enterprise.
   C. Reflect artifacts needed to support specific decision-making views within the enterprise.

6) Which of the following is false about the REA ontology?
   A. It attempts to eliminate stovepipes.
   B. It is based on a set of building blocks.
   C. It can be used by all enterprises and by all functional areas within an enterprise.
   D. Wherever two areas of an enterprise use the same building blocks as the foundation of their database design, their systems may be effectively integrated.
   E. None of the above.

7) Most failed ERP software implementations have been blamed on...
   A. People Issues
   B. Technological software issues
   C. Hardware issues
   D. Both A and B
   E. None of the above

8) The redesign of business processes or systems to achieve a dramatic improvement in enterprise performance is called

A. Reengineering
B. Interruption
C. Stovepiping
D. Intra-enterprise integration
E. Inter-enterprise integration

9) Which of the following about the REA ontology is false?
A. The REA ontology began as a generalized accounting model but has since developed into an enterprise ontology.
B. The REA ontology encourages the use of artificial constructs, such as the many artificial constructs included in SAP systems.
C. REA ontology has the same objective of enterprise systems.
D. The purpose of the REA enterprise ontology is to define constructs common to all enterprises and to demonstrate how those constructs may be represented in an integrated enterprise information system.
E. Effective REA modeling requires and enables thorough understanding of an enterprise's environment, business processes, risks, and information needs.

10) REA stands for...
A. Reality Exchange for Activities
B. Reapplication of Enterprising Accounting
C. Resources, Events, and Agents
D. Resources, Events, and Applications
E. Rebates, Exchanges, and Acquisitions

11) One of the impediments enterprises may encounter in their efforts to integrate their information systems is:
A. People's resistance to change
B. Lack of effort
C. Lack of the correct kind of training for employees
D. Creating bugs in the software
E. A, C and D

12) What kind of education do so many ERP software users lack?
A. ERP education
B. Integration education
C. Software education
D. business-and-people processes education
E. Change management education

13) TF Ontology is the study of what things exist. True

14) TF An enterprise is an organization established to achieve a particular undertaking involving industrious, systematic activity. True

15) TF Domain ontologies are base objects. False.

16) TF Most ERP users lack business-and-people processes education. True.

17) TF The REA ontology approach is intended to encourage stovepipes. False.

18) How is enterprise system integration like building blocks for toy trains?
Information systems software applications built by various divisions, departments, or even individual users in an enterprise are the train cars in the toy example. The hardware platform and operating system serve as the track on which the train cars run. Just as train cars built to run on different tracks cannot be connected to run together on the same track, software applications built to run on different operating systems cannot be connected to run together on the same operating system. Pg 4

19) What does the phrase *paving the cowpaths* mean with respect to reengineering?
Instead of embedding outdated processes in silicon and software - paving the cowpath - we should obliterate them and start over using the power of modern information technology to radically redesign business processes in order to achieve dramatic improvements in their performance. Pg 7

20) Why can most failed software implementations be blamed on people?
When an enterprise changes its business processes, people must change. People don't like to change. If change management in such cases is not handled well, the software implementation is doomed to fail. Most failed ERP software implementations have been blamed on people issues as opposed to technological software issues. Some practitioners have pinpointed one of the biggest problems as lack of education about the underlying business processes for system users. pg 10

CHAPTER 2

1) Which of the following is true about script patterns?
   - A. Script patterns are sequence of events that occur in combination with each other.
   - B. Script patterns focus on objects and relationships between them
   - C. Script patterns are always accurate.
   - D. Past script patterns rarely help you for the future
   - E. None of the above.

2) Which of the following is NOT an example of a resource in the REA ontology?
   - A. Employee Labor
   - B. Land
   - C. Finished Goods
   - D. Customers
   - E. Raw Materials

3) Which of the following models focuses primarily on the resource exchanges between the enterprise and its various external business partners such as suppliers, customers, creditors/investors, and employees?
   - A. Value system level REA model
   - B. Value chain level REA model
   - C. Business process level REA model
   - D. Task level REA model
   - E. None of the above

4) Which of the following models focuses on the individual workflow steps involved in accomplishing events in an enterprise?
   - A. Value system level REA model
   - B. Value chain level REA model
   - C. Business process level REA model
   - D. Task level REA model
   - E. None of the above

5) In database design, individual objects are sometimes referred to as _____, and categories of objects are known as ____.
   - A. Symbols, Types
   - B. Types, Tokens
   - C. Tokens, Types
   - D. Symbols, Tokens
   - E. Tokens, Symbols

6) For which level of the REA ontology has a specific pattern not yet been discovered?
   - A. Business process level
   - B. Task level
   - C. Value system level
   - D. Value chain level
   - E. one of the above; specific patterns have been discovered for all four levels

7) The external partners to which cash is the primary resource typically given in a traditional manufacturer's value system level REA model include all of the following except...
   - A. Employees
   - B. Customers
   - C. Suppliers
   - D. Investors
   - E. Creditors

8) Which of the following is NOT included in a typical Value Chain Level REA model?
   - A. Financing process
   - B. Human resources process
   - C. Sales process
   - D. Acquisition process
   - E. Consumption process

9) In the REA Ontology, Agents can be
   - A. Individuals
   - B. Departments
   - C. Organizations
   - D. Divisions

E. All of the above

10) A combination of script patterns that communicate typical sequences of events for a particular domain is known as:
   A. Script ontology
   B. REA lower level ontology
   C. Domain ontology
   D. Token ontology
   E. Upper ontology

11) Whereas object patterns focus on objects and the relationships between them, _____ are sequences of events that typically occur in combination with each other.
   A. Ontology patterns
   B. REA lower level patterns
   C. Domain patterns
   D. Token patterns
   E. Script patterns

12) In the REA ontology, Events can be
   A. planned, controlled, executed, and evaluated
   B. orchestrated, scheduled, manipulated, and manned
   C. patterned, blamed, leveled, and detailed
   D. tallied, performed, adjusted, and programed
   E. scripted, presented, counted, and formed

13) TF Patterns allow us to make predictions about future events and to make sense of the present based on our past experiences. True

14) TF In database design, individual objects are sometimes referred to as types, and categories of objects are known as tokens. False.

15) TF Relationships in the business process level REA model are based on software. False.

16) TF A business process level REA model focuses on one or more transaction cycles in an enterprise's value chain. True.

17) TF Two of the commonly interconnected business processes included in the value chain model are the conversion process and the financing process. True.

18) What are the four levels of the REA ontology?
Value system, value chain, business process, and task level.

19) What's the difference between a script pattern and an object pattern?
Object patterns focus on objects and the relationships between them, script patterns are sequences of events that typically occur in combination with each other.

20) What is a business process?
The term business process is a term widely used in practice to mean anything from a single activity of producing a report to an entire transaction cycle. For this text- book, business process describes an entire transaction cycle.

CHAPTER 3

1) The supply chain typically ends with the
   A. Wholesaler
   B. **Customer**
   C. Vendor
   D. Retailer
   E. Production Employee

2) "Margin" in Porter's value chain is:
   A. The value or usefulness obtained when a product or service is purchased
   B. The set of activities associated with transforming inputs into outputs
   C. Firm infrastructure
   D. The cost of resources given up to obtain other resources
   E. **The difference between value and cost**

3) Which of the following is one of Porter's Support Value Activities?
   A. **Procurement**
   B. Operations
   C. Inbound logistics
   D. Outbound logistics
   E. None of the above; All of the above are primary activities

4) Which of the following is one of Porter's Primary Value Activities?
   A. Technological development
   B. Human resource management
   C. Firm infrastructure
   D. **Inbound logistics**
   E. None of the above; All of the above are support value activities

5) Employees of Brymer Bridge Design (BBD) can elect to have $50 per month deducted from their paychecks to pay for dental insurance. BBD transmits the insurance premiums to DentaRight Dental Insurance (DDRI). When an insured BBD employee visits a participating dentist, the employee pays only half the bill. The remaining half is paid by DDRI. Which of the following statements best describes why the dental benefits paid by DDRI to the dentists should not be included on BBD's REA Value System Model?

   A. Payment of employee benefits such as dental insurance falls within the scope of BBD's conversion cycle, and conversion cycles are typically not depicted on value system models.
   B. **Payment of the dental benefits relates to the resource exchanges between DDRI and its suppliers, therefore it is outside the scope of BBD's value system model.**
   C. Payment of the dental benefits by DDRI to the dentists should be included on BBD's value system model.
   D. Payment of dental benefits is an event, not a resource exchange; therefore it should not appear on a value system level model.
   E. Payment of dental benefits does not involve cash flow, therefore it should not appear on a value system level model.

6) Regardless of the type of goods or services provided, each organization typically includes these three business processes/transaction cycles:
   A. Inventory, Wage Payments, and Sales
   B. Payments, Collections, and Debt Financing
   C. **Acquisition/Payment, Conversion, and Sales/Collection**
   D. Inputs, Outputs, and Returns
   E. Financing, Wage Payments, and Inventory

7) The causal relationship between a give event and a take event is a _____ and _____ is defined as the inflow or outflow of a resource.
   A. Difference relationship; Process
   B. **Duality relationship; Stockflow**
   C. Conversion relationship; Timing
   D. Value Chain relationship; Resource flow
   E. Stockflow relationship; Duality

8) Which of the following are economic increment events?
   A. **Work-In-Process Jobs**

B. Material Issues
C. Labor Operations
D. Machine Operations
E. Cash Disbursements

9) According to Michael Porter, which of the following activities support the entire value chain?
   A. Firm infrastructure
   B. Technological development
   C. Operations
   D. Procurement
   E. Outbound logistics

10) In the REA Value System Model, the enterprise being modeled is represented as a(n):
   A. Arrow
   B. Square or Rectangle
   C. Triangle
   D. Circle
   E. Diamond

11) Resource flow connections between the internal business processes (transaction cycles) of an enterprise are most commonly illustrated in:
   A. REA Value System models
   B. REA Value Chain models
   C. REA Business Process models
   D. REA Task models
   E. None of the above

12) What is likely the most appropriate label to put on the arrow going into the financing process for this partial value chain level model for a privately held pharmacy?

   A. Loan
   B. Common Stock
   C. Cash
   D. Pharmaceuticals
   E. Derivatives

13) TF Examining the value system level of a firm includes thinking about the enterprise's mission and strategy. True.

14) TF Everything an enterprise does should create value for its employees according to Michael Porter. False.

15) TF Inbound logistics are activities associated with collecting, storing, and physically distributing the products or services. False.

16) TF The causal relationship between a give event and a take event is a inflow relationship. False.

17) TF Duality relationships are the glue that binds a firm's separate economic events together into rational economic processes. True.

18) What is stockflow?
Stockflow is defined as the inflow or outflow of a resource. Stockflow relationships exist between give events and resources (these stockflows are outflows) and between take events and resources (these stockflows are inflows).

19) What is an enterprise's margin as defined by Michael Porter?
Porter computes an organization's margin as the difference between value and cost.

20) Primary value activities consist of the events that create customer value and provide organization distinctiveness in the marketplace. They are the critical activities in running a business. What are support value activities?
Support value activities facilitate accomplishing

CHAPTER 4

1) Which term best describes the following relationship?
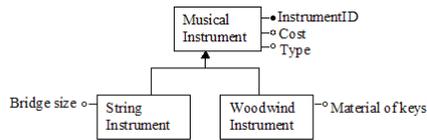
- A. Stockflow
- B. Duality
- C. Generalization
- D. Typification
- E. Fulfillment

2) Which of the following statements accurately interprets one or more of the cardinalities that are depicted below in the Alpha to Omega relationship?
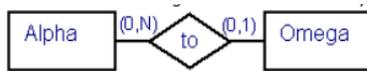
- A. An Alpha is related to at most one Omega
- B. An Omega can be related to many Alphas
- C. An Omega can happen before an Alpha
- D. Omegas can be related only to Alphas
- E. Alphas can be related only to Omegas

3) Which of the statements listed below accurately explains one or more of the following cardinalities between the "Customer Order" and the "Delivery" events?
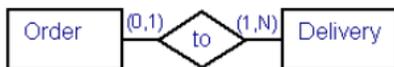
- A. Each delivery can be associated with only one order
- B. A delivery cannot be made without a valid order
- C. An order cannot be accepted without a prior delivery to the customer
- D. Any order can be associated with several delivery events
- E. A delivery can happen before the associated order event

4) Customers that come in to Furniture Galore, Inc. may be helped by any available salesperson. If more than one salesperson helps the same customer with the same merchandise, any resulting sale to that customer will be credited to all involved salespeople, who will split the sale commission. Salespeople are added to the database as soon as they are hired. A sale cannot be made without a salesperson. The cardinalities for the relationship between Sale and Salesperson for Furniture Galore, Inc. are:
- A. Sale(1,1) to Salesperson(0,1)
- B. Sale (1,1) to Salesperson(0,N)
- C. Sale (0,N) to Salesperson(1,1)
- D. Sale (0,N) to Salesperson (1,N)
- E. Sale (1,N) to Salesperson (0,N)

5) Which of the following pairs of entities would typically be associated with each other in a stockflow relationship in a REA model?
- A. Vendor and inventory
- B. Purchase and cash disbursement
- C. Purchase and purchasing agent
- D. Purchase and inventory
- E. Inventory and cash

6) The recommended Step 1 in REA business process level modeling is

A. Attach resources to economic events.
B. Identify the economic exchange events that form the core of the business process.
C. Identify internal and external agents and the events in which they participate.
D. Assign participation cardinalities to all relationships in the model.
E. Assign attributes to all entities and relationships in the model.

7) Which of the following is NOT an essential information process event?
A. Communicate to the purchasing department a need to replenish a resource
B. Record information about an operating event
C. Report useful information to a decision maker
D. Maintain reference data about an agent or resource
E. All of the above are essential information processes

8) Calculating amounts, sending documents to outside parties such as customers, and generating analysis reports are all examples of
A. Operating events
B. Economic events
C. Business processes
D. Information process events
E. Decision/management events

9) Which of the following statements accurately describes the difference between an operating event and a business process.
A. A business process consists of several operating events
B. An operating event consists of several business processes
C. An operating event is something management wants to plan, control, and evaluate, while business processes are the activities associated with providing goods and services to customers.
D. Operating events trigger recording information process events, while business processes trigger maintaining information process events.
E. Operating events trigger maintaining information processes while business processes trigger reporting information process events.

10) Which of the following is an example of an operating event?
A. Sending a bill to a customer
B. Delivering a product to a customer
C. Recording data about a customer payment
D. Reporting information about a customer's accounts receivable balance
E. All of the above are operating events

11) Primary key attributes
A. Must be unique
B. Must be universal
C. Must be used to identify the entities or relationships to which they are assigned
D. Can be chosen arbitrarily
E. All of the above are true

12) Any attribute that may be decomposed into other attributes is called a
A. Simple attribute
B. Complex attribute
C. Static derivable attribute
D. Volatile derivable attribute
E. Candidate key attribute

13) Which of the following represent invalid cardinalities for an entity's participation in a relationship?
A. (0,1)
B. (2,1)
C. (1,1)
D. (1,N)

E. (0,N)

14) Which of the following minimum and maximum participation cardinalities represent an entity that has non-mandatory participation in a relationship and can participate in the relationship many times?
    A. (1,2)
    B. (1,N)
    C. (0,1)
    D. (0,N)
    E. (1,1)

15) Which of the following is an information process event?
    A. Updating accounts receivable for a sale made to a customer
    B. Changing a customer address in the customer database table
    C. Printing a list of past due sales for the credit manager
    D. Entering sales return data into the enterprise database
    E. All of the above

16) If a resource entity set represents specifically identified resources, the expected cardinality pattern for its relationship to an economic event set is
    A. (1,2) Resource - (2,1) Economic Event
    B. (1,N) Resource - (0,1) Economic Event
    C. (0,1) Resource - (1,N) Economic Event
    D. (1,0) Resource - (1,1) Economic Event
    E. (0,N) Resource - (1,1) Economic Event

17) In REA business process level modeling, resources are connected to economic events using
    A. Participation relationships
    B. Difference relationships
    C. Duality relationships
    D. Stockflow relationships
    E. Assignment relationships

18) TF An entity is an object that has both a physical and conceptual existence. True

19) TF McCahon proposed REA in 1902 as a generalized model for accounting systems after analyzing hundreds of accounting transactions. False

20) TF A composite attribute is an attribute that cannot be further decomposed; whereas a simple attribute may be decomposed into other attributes. False

21) TF An economic event is used to uniquely and universally describe each instance of an entity or relationship.

22) TF An instigation event is about "who started it". True

23) What is a relationship?

An association between entities.

**24) What term is used to describe a combination of unique key fields?**

Concatenated

**25) What three activities do information process events include?**

Information process events include three activities: recording data about operating events, maintaining reference data that is important to the organization, and reporting useful information to management and other decision

1) In the following flowchart segment, the most likely action to take with the customer remittance advices once they've been keyed into the system, AND the corresponding symbol to put at circle B is
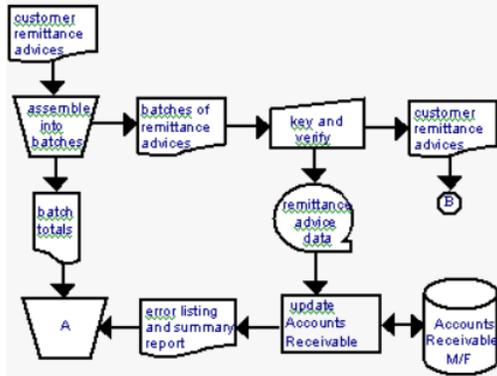
  A. Discard them immediately; manual process symbol
  B. Forward them to the internal audit department for review; dashed line
  C. Forward them to the treasurer to compare with the monthly bank statement; dashed line
  D. File them by customer number; file symbol
  E. Compare them to the customer check amounts, manual process symbol

2) In a system flowchart, which symbol should be used to represent a backup of the general ledger master file that can only be accessed sequentially?

  A.
  B.
  C.
  D.
  E.
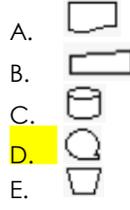
3) The primary purpose of executable files is to store which of the following?
  A. Business reference data
  B. Transaction data
  C. Word processing documents
  D. Graphics documents
  E. Application programs

4) Which of the following can best be described as a master file?
  A. A file of event data
  B. An income statement
  C. A trial balance
  D. An accounts payable subsidiary ledger
  E. A journal voucher file

5) In a data flow diagram, an invoice received from a vendor is represented as a
  A. Data source
  B. Data sink
  C. Data dictionary
  D. Data flow
  E. Document symbol

6) All of the following are true except:
  A. Flowcharts can pictorially show more than data flow diagrams because they use more different kinds of symbols.
  B. Data flow diagrams do not provide any information about how data are stored, whereas flowcharts do provide such information.
  C. Data flow diagrams convey the timing and sequence of events; flowcharts do not.

D. Flowcharts emphasize the flow of documents or records, whereas data flow diagrams emphasize the logical flow of data.

E. All of the above are true.

7) The purpose of task level modeling in the REA ontology is

A. To design a database

B. To represent the specific workflow activities that combine to form events in a business process, and to document the flow of data through an enterprise

C. To represent the enterprise in the context of its external business partners

D. To represent the resource interconnections among the enterprise transaction cycles

E. To represent resource flows among external partners that do not directly involve the enterprise (e.g. a customer payment to a credit card company for the amount of the credit sale a store made to the customer)

8) System flowcharts consist of these three simple graphical elements combined to represent various types of physical information flows and processes:

A. Charts, lines, and documents

B. Charts, symbols, and annotations

C. Symbols, lines, and documents

D. Symbols, flow lines, and areas of responsibility

E. Circles, squares, and flow lines

9) Which rules should be followed to keep flowcharts uncluttered?

A. Enter narrative on charts only within symbols

B. Avoid explaining with narrative what is already adequately described by the flowchart itself

C. Place areas of responsibility with the most frequent interchange adjacent to each other to avoid long arrows

D. All of the above

E. None of the above

10) Media that can be used to store data include:

A. Paper

B. Magnetic tape

C. CD-R discs

D. CD-RW discs

E. All of the above

11) Which type of processing occurs during the course of a business event and provides immediate response to an information user's request

A. Online processing

B. Batch processing

C. Report-time processing

D. Real-time processing

E. Suspense processing

12) Which of the following is a true statement about data flow diagram symbols?

A. Circles are used to represent data sources and sinks

B. A single straight line is used to display a store or collection of data

C. Rectangles are used to represent processes that transform data inflows into information outflows

D. Data flow lines can be straight or curved lines

E. Because approximately 25 different symbols are used in data flow diagrams, they are more difficult to prepare than are system flowcharts.

13) TF A system flowchart has the primary purpose of illustrating the logical flow of data in a system. False

14) TF The zip disk typically requires sequential storage and sequential access. False.

15) TF The key to effective information customer support is not the amount of information provided; rather it is the ability to provide accessible, useful, and timely information. True

16) TF The terms *operating event* and *information process event* are synonymous. False.

17) TF A transaction file contains batches of current source activity data. True.

18) SA Draw three of the flowcharting symbols and label them.

| (A) Online manual device | (B) Single document | (C) Calculator/ register tape | (D) Disk storage | (E) Magnetic tape storage | Permanent file | Temporary file |

(F) Offline paper file

| (G) Terminal display | (H) Manual process | (I) Online computer process | (J) Offline or noncomputer process |
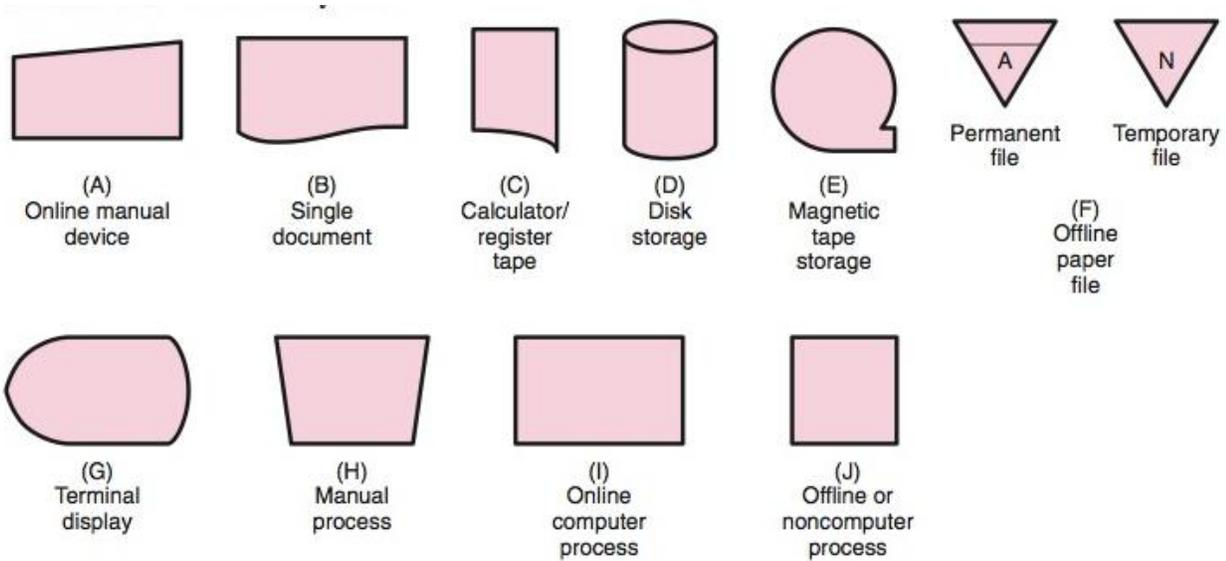
19) Define a level zero DFD.
A high-level (just under context level) representation that depicts only the very high-level processes within an information system.

20) Define an information process event.

A workflow activity that records, maintains, or reports information about one or more operating events

CHAPTER 6

1) In a relational database table, the table's intension consists of its
    A. Cells
    B. Rows
    C. Columns
    D. Relationships
    E. Referential integrity

2) In relational database design, a primary key of one table that is also included in another table
    A. Usually indicates that someone made a mistake in deriving the tables and has added undesirable data redundancy into the database.
    B. Usually results in null values being introduced into the database.
    C. Usually ensures that we can get all the information we need to make a decision by querying only one table or the other (i.e., we would not need both tables in the same query).
    D. Usually uniquely and universally identifies each instance in both tables in which it is included.
    E. Usually establishes a connection between the tables so they can be linked to generate useful information.

3) When converting entity-relationship models into relational tables,
    A. One to one (maximum cardinalities) relationships should always be implemented with a separate table.
    B. Every relationship should be implemented with a separate table.
    C. A one to many (maximum cardinalities) relationship should be implemented by posting the key of the one entity table into the many entity table.
    D. A one to many (maximum cardinalities) relationship should be implemented by posting the key of the many entity table into the one entity table.
    E. Both B and D above are true.

4) Given the following conceptual model, which would be the most appropriate relational table implementation choice?
    A. Implementation Choice #1
    B. Implementation Choice #2
    C. Implementation Choice #3
    D. Implementation Choice #4
    E. Implementation Choice #5

5) When creating a new database in Microsoft Access, at what point is the user REQUIRED (i.e., the latest possible time) to name the database file within the Access software program?
    A. After some data has been entered into the tables for that database.
    B. Before the user exits the program, after having completed the desired work.
    C. Before the user creates any tables, immediately after giving the command to create a new database.
    D. After the tables and the relationship layout have been created, but before data is entered into the tables.
    E. After the tables have been created, but before the relationship layout is created.

6) Which of the following is NOT another name for the columns in a relational database?
    A. Intension
    B. Schema
    C. Fields
    D. Records
    E. All of the above are other names for the columns in a relational database

7) Which of the following is FALSE regarding the use of relational tables?
    A. To build a query, you must know the order of all rows and columns in each relational table
    B. All data values in a column must conform to the same data format
    C. Each cell in a relational table can contain only one value
    D. The tables in a relational database are linked to each other through primary and foreign keys
    E. All of the above are TRUE (i.e., none of the above are FALSE)

8) Which of the following describes referential integrity?
    A. A primary key of a relational table must not contain a null value
    B. One fact must not be in multiple places
    C. The value for a foreign key attribute must either be null or match one of the data values in the table in which the attribute is a primary key
    D. Referential integrity is a principle that prevents the use of redundancy, avoids null values, and creates a minimal database
    E. Multiple facts must not be stored in a single cell

9) Which of the following statements about is correct regarding the concept of load?

A. High load indicates most of the values are expected to be null
B. Low load indicates most of the values are expected to be null

10) Which of the following is NOT a rule for creating relational database tables from a conceptual model?
    A. Make a separate table to represent each and every many-to-many relationship.
    B. Post a foreign key to represent a relationship that has cardinalities (1,1)-(1,1).
    C. For any relationship with (1,1) participation for one of the entities, post the related entity's primary key into the (1,1) entity's table as a foreign key.
    D. The general rule for maximum cardinalities prohibits posting a foreign key into the table of the entity that has (1,N) or (0,N) participation in the relationship.
    E. Make a separate table to represent each and every relationship that has cardinalities (0,1)-(1,N).

11) Which of the following is most likely a violation of the one-fact, one-place rule?
    A. Customer ID is used as the primary key of a Sale table.
    B. Cash Receipt ID is posted as a foreign key in a Sale table for a company that requires immediate cash payments in full for each sale.
    C. A separate table is created to represent a relationship between Warehouse and Inventory with cardinalities (0,N)-(1N) and the attribute "Quantity On Hand" is assigned to the relationship table.
    D. Customer ID posted as a foreign key in a Sale table.
    E. A separate table is created to represent a relationship between Purchase and Cash Disbursement with cardinalities (0,1) - (0,1) and the attribute "Amount of Cash Disbursement Applied to a Purchase" is assigned to the relationship table.

12) When creating a database in Microsoft Access
    A. Referential integrity is only enforced for those relationships for which the database designer or user places a check mark in a box for "enforce referential integrity" during or after creation of the relationships in the relationship layout.
    B. In Access it is impossible to create a table without designating a primary key.
    C. Foreign keys must be specified for each table.
    D. To delete a relationship, simply deleting one of the tables involved in the relationship will do the trick.
    E. All data entry problems will result in error messages.

13) The view in which the field data types and field properties for a database table can be seen in Microsoft Access is called the
    A. Datasheet view
    B. Design view
    C. SQL view
    D. Dashboard view
    E. Field view

14) Which example relational tables below contain data that best represents the cardinality pattern for the relationship Warehouse (0,N) - (1,N) Inventory.

Example 1:

Warehouse			Location			Inventory	
WarehouseID	Address		WarehouseID	InventoryID		InventoryID	Description
WH138	11 Oak		WH138	BVL489		ANK18	Rough
WH479	321 East		WH138	ANK18		BVL489	Smooth
WH702	929 Paris		WH702	BVL489			

Example 2:

Warehouse			Location			Inventory	
WarehouseID	Address		WarehouseID	InventoryID		InventoryID	Description
WH138	11 Oak		WH138	BVL489		ANK18	Rough
WH479	321 East		WH138	ANK18		BVL489	Smooth

Example 3:

Warehouse			Location			Inventory	
WarehouseID	Address		WarehouseID	InventoryID		InventoryID	Description
WH138	11 Oak		WH138	BVL489		ANK18	Rough
WH479	321 East		WH479	ANK18		BVL489	Smooth
WH702	929 Paris		WH702	BVL489			

Example 4:

| Warehouse			Location			Inventory	
WarehouseID	Address		WarehouseID	InventoryID		InventoryID	Description
WH138	11 Oak		WH138	BVL489		ANK18	Rough
WH479	321 East		WH138	ANK18		BVL489	Smooth
WH702	929 Paris		WH702	BVL489		CRW177	Bumpy

    A. Example 1
    B. Example 2
    C. Example 3
    D. Example 4
    E. None of the above

15) Which of the implementation choices depicted below represents the most appropriate Microsoft Access implementation of the Purchase-Cash Disbursement relationship portrayed in this conceptual model?
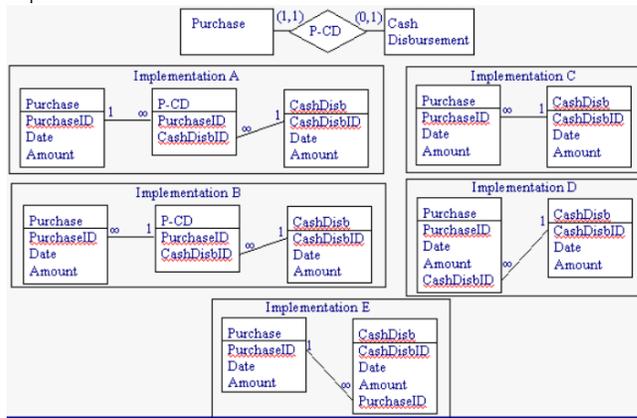

- A. Implementation A
- B. Implementation B
- C. Implementation C
- D. **Implementation D**
- E. Implementation E

16) Given the following relationship layout from Microsoft Access, which set of tables has data that is consistent with referential integrity?
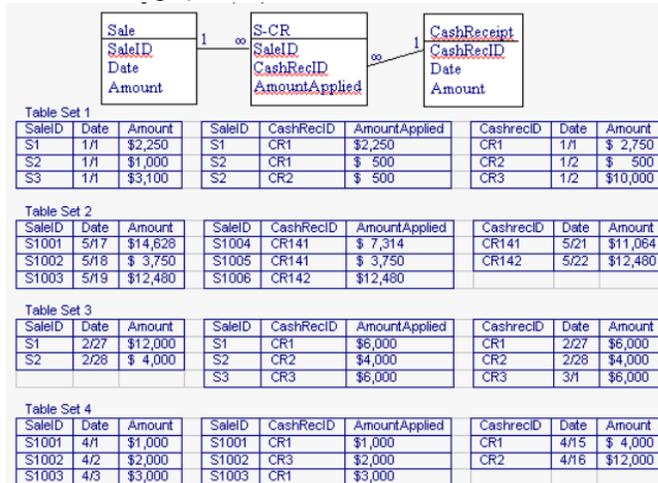
- A. **Table Set 1**
- B. Table Set 2
- C. Table Set 3
- D. Table Set 4
- E. All of the table sets have referential integrity

17) Examine the following model.
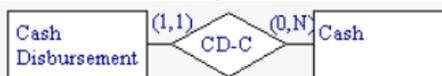
A Microsoft Access implementation of this model includes a table for Cash Disbursement and a table for Cash. The primary key of Cash (AccountNumber) is posted into the Cash Disbursement table as a foreign key. You are requested to evaluate whether or not each minimum and maximum cardinality in the conceptual model is appropriately reflected in the physical table design. What should you look for in the table design to determine whether the 1 minimum on Cash Disbursement is appropriately reflected in the database tables?

- A. The CashDisbursementID field in the Cash table should have a field property of required data entry.
- B. The CashDisbursementID field in the Cash table should not have a field property of required data entry.
- C. No action is needed, because the Cash AccountNumber posted into the Cash Disbursement table ensures each cash disbursement can only have one corresponding cash account number recorded.
- D. The Cash AccountNumber field in the Cash table should not have a field property of required data entry.
- E. **The Cash AccountNumber field in the Cash Disbursement table should have a field property of required data entry**

18) TF A trigger is stored as a formula to allow data computations. <mark>True</mark>

19) TF In database design, logical models are converted into conceptual models once the type of database to be used has been determined. <mark>False</mark>

20) TF A foreign key is the primary key of an entity table that is posted into another entity table to represent a relationship between those entities. <mark>True</mark>

21) TF Each cell in a relational table can contain more than one value. <mark>False</mark>.

T2) TF Creating separate tables to represent relationships helps to avoid redundancy and null values. <mark>True</mark>

23) Define load.
The percentage of data values for an attribute that are non-null.

24) Define relational database.
A collection of tables that meet the criteria of the relational model.

25) In relational database design, what is meant by a "two-dimensional storage structure"?
A storage structure wit

GOOD LUCK ;)