1. Systems development typically starts with a ____.
a. feasibility study, followed by a systems request, which includes a preliminary investigation
b. systems request, followed by a preliminary investigation, which includes a feasibility study
c. preliminary investigation, followed by a feasibility study, which includes a systems request
d. feasibility study, followed by a preliminary investigation, which includes a systems request
ANS: B

A feasibility study includes tests for ____ feasibility, which means that a proposed system will be used effectively after it has been developed.
a. operational c. schedule
b. technical d. economic
ANS: A

A feasibility study includes tests for ____ feasibility, which refers to the practical resources needed to develop, purchase, install, or operate the system.
a. operational c. schedule
b. technical d. economic
ANS: B

A feasibility study includes tests for ____ feasibility, which means that the projected benefits of the proposed system outweigh the estimated costs.
a. economic c. operational
b. schedule d. technical
ANS: A

Examples of tangible benefits include all of the following except a(n) ____.
a. user-friendly system that improves employee job satisfaction
b. new scheduling system that reduces overtime
c. online package tracking system that decreases the need for clerical staff
d. sophisticated inventory control system that cuts excess inventory
ANS: A

Examples of intangible benefits include all of the following except a(n) ____.
a. user-friendly system that improves employee job satisfaction
b. sales tracking system that supplies better information for marketing decisions
c. new Web site that enhances the company's image
d. online package tracking system that decreases the need for clerical staff
ANS: D

When setting priorities for systems requests, the highest priority goes to projects that provide the ____.
a. least benefit, at the highest cost, in the longest period of time
b. least benefit, at the lowest cost, in the longest period of time
c. greatest benefit, at the highest cost, in the shortest period of time
d. greatest benefit, at the lowest cost, in the shortest period of time
ANS: D

Of the measures of feasibility in the accompanying figure, ____ considers questions such as "Does management support the project?" and "Will the new system require training for users?"
a. schedule feasibility c. economic feasibility
b. technical feasibility d. operational feasibility
ANS: D

Of the measures of feasibility in the accompanying figure, ____ considers points such as "Does the proposed platform have sufficient capacity for future needs?" and "Will the hardware and software environment be reliable?"
a. schedule feasibility c. economic feasibility
b. technical feasibility d. operational feasibility
ANS: B

Of the measures of feasibility in the accompanying figure, ____ assesses tangible and intangible benefits to the company in addition to costs.
a. schedule feasibility c. economic feasibility
b. technical feasibility d. operational feasibility
ANS: C

Of the measures of feasibility in the accompanying figure, issues that relate to ____ include "Has management established a firm timetable for the project?" and "Will a project manager be appointed?"
a. schedule feasibility c. economic feasibility
b. technical feasibility d. operational feasibility
ANS: A

. ____ is an example of a discretionary project.
a. Creating a new report for a user
b. Adding a report required by a new federal law
c. Including annual updates to payroll and tax percentages
d. All of the above
ANS: A

Projects where management has a choice in implementing them are called ____ projects.
a. discretionary c. appended
b. nondiscretionary d. concatenated
ANS: A

Projects where management has no choice in implementing them are called ____ projects.
a. discretionary c. appended
b. nondiscretionary d. concatenated
ANS: B

A systems analyst conducts a(n) ____ investigation to study the systems request and recommend specific action.
a. preliminary c. systems
b. appendix d. transitional
ANS: A

A popular technique for investigating causes and effects is called a(n) ____ diagram, which is an analysis tool that represents the possible causes of a problem as a graphical outline.
a. wishbone c. jawbone
b. fishbone d. crossbones
ANS: B

When using a ____ diagram to investigate causes of a problem, an analyst first states the problem and then draws a main bone with sub-bones that represent possible causes of the problem.
a. wishbone c. jawbone
b. fishbone d. crossbones
ANS: B

To avoid the problem of project creep, ____.
a. define project scope as vaguely as possible
b. leave project scope undefined
c. define project scope as clearly as possible
d. expand the focus beyond the problem at hand
ANS: C

Determining the project ____ means to define the boundaries, or extent, of a project — being as specific as possible.
a. index c. scope
b. matrix d. estimation
ANS: C

Projects with very general scope definitions are at risk of expanding gradually, without specific authorization, in a process called project ____.
a. dilation c. expansion
b. creep d. drift
ANS: B

A(n) ____ is a requirement or condition that a system must satisfy or an outcome that a system must achieve.
a. condition c. impediment
b. constraint d. obstacle
ANS: B

The primary method of obtaining information during the preliminary investigation is to ____.
a. analyze organization charts c. review documentation
b. conduct interviews d. observe operations
ANS: B

In sequence, the interviewing process involves a series of steps: ____, conduct the interview, document the interview, and evaluate the interview.
a. determine the people to interview, establish objectives for the interview, develop interview questions, prepare for the interview
b. establish objectives for the interview, develop interview questions, prepare for the interview, determine the people to interview
c. develop interview questions, prepare for the interview, determine the people to interview, establish objectives for the interview
d. prepare for the interview, determine the people to interview, establish objectives for the interview, develop interview questions
ANS: A

A survey is ____, generally takes less time, and can involve a broad cross-section of people.
a. more flexible than a series of interviews, and it is less expensive
b. more flexible than a series of interviews, but it is more expensive
c. not as flexible as a series of interviews, but it is less expensive
d. not as flexible as a series of interviews, and it is more expensive
ANS: C

In a preliminary investigation report, the ____ contain(s) a brief description of the system, the name of the person or group performing the investigation, and the name of the person or group who initiated the investigation.
a. introduction c. expected benefits
b. systems request summary d. time and costs estimates
ANS: A

In the preliminary investigation report, the ____ section contains the results of the preliminary investigation, including a description of the project's scope, constraints, and feasibility.
a. appendix c. case for action
b. introduction d. findings
ANS: D

. ____ is/are an internal factor(s) that affect(s) IT systems projects.
a. The economy c. Strategic plans
b. User requests d. Existing systems and data
ANS: B, C, D

It is easier to assign dollar values to intangible benefits. _____
ANS: F, tangible

Regardless of the type, all constraints should be identified as late as possible.
_____
ANS: F, early

A clear definition of project scope and constraints promotes misunderstandings that arise where managers assume that the system will have a certain feature or support for a project, but later find that the feature is not included. _____
ANS: F, avoids

A Gantt chart is drawn as a vertical bar graph; arranged in descending order, so the team can focus on the most important causes, the bars represent various causes of a problem.
_____
ANS: F, Pareto

In a preliminary investigation report, the case for action section includes a summary of the project request and a specific recommendation. _____
ANS: T

When assessing schedule feasibility, a systems analyst must consider the interaction between time and costs.
ANS: T

The first step in evaluating feasibility is to accept and include all systems requests, even those that are not feasible.
ANS: F

Feasibility analysis is an ongoing task that must be performed throughout the systems development process.
ANS: T

Whenever possible, a systems analyst should evaluate a proposed project based on tangible costs and benefits that represent actual (or approximate) dollar values.
ANS: T

Few nondiscretionary projects are predictable.
ANS: F

Before beginning a preliminary investigation, a memo or an e-mail message should let people know about the investigation and explain the systems analyst's role.
ANS: T

The purpose of an interview, and of the preliminary investigation itself, is to convince others that a project is justified, not to uncover facts.
ANS: F

The format of a preliminary investigation report is the same from one company to another.
ANS: F

The term _____ refers to the reasons, or justification, for a systems development proposal.
ANS: business case

The starting point for a systems development project is called a(n) _____, which is a formal way of asking for IT support.
ANS: systems request

A systems request must pass several tests, called a(n) _____, to see whether it is worthwhile to proceed further.
ANS: feasibility study

_____ are benefits that can be measured in dollars, resulting from a decrease in expenses, an increase in revenues, or both.
ANS: Tangible benefits

. _____ are advantages that are difficult to measure in dollars but are important to a company.
ANS: Intangible benefits

A(n) _____ is included in the report to management if you need to attach supporting information (e.g., the interviews you conducted, the documentation you reviewed).

ANS: appendix

In a DFD external entities are represented by a
(a) rectangle----->solution
(b) ellipse
(c) diamond shaped box
(d) circle

A data flow can
(a) only emanate from an external entity
(b) only terminate in an external entity
(c) may emanate and terminate in an external entity----->solution
(d) may either emanate or terminate in an external entity but not both

A rectangle in a DFD represents
(a) a process
(b) a data store
(c) an external entity----->solution
(d) an input unit

5.1.4 External Entities may be a
(a) source of input data only
(b) source of input data or destination of results----->solution
(c) destination of results only
(d) repository of data

5.1.5 By an external entity we mean a
(a) unit outside the system being designed which can be controlled by an analyst
(b) unit outside the system whose behavior is independent of the system being designed
(c) a unit external to the system being designed----->solution
(d) a unit which is not part of a DFD

5.1.6 A data store in a DFD represents
(a) a sequential file
(b) a disk store
(c) a repository of data----->solution
(d) a random access memory

5.1.7 A data flow can
(a) only enter a data store
(b) only leave a data store

(c) enter or leave a data store----->solution
(d) either enter or leave a data store but not both

5.1.8 A data cannot flow between a store and
(i) a store
(ii) a process
(iii) an external entity
(a) i and iii----->solution
(b) i and ii
(c) ii and iii
(d) ii

Data cannot flow between two data stores because
(a) it is not allowed in a DFD
(b) a data store is a passive repository of data
(c) data can get corrupted
(d) they will get merged----->solution

5.1.10 Data cannot flow from an external entity to an external entity because
(a) it will get corrupted
(b) it is not allowed in DFD
(c) an external entity has no mechanism to read or write
(d) both are outside the context of the system----->solution

5.2.1 A context diagram
(a) describes the context of a system
(b) is a DFD which gives an overview of the system----->solution
(c) is a detailed description of a system
(d) is not used in drawing a detailed DFD

5.2.2 A context diagram is used
(a) as the first step in developing a detailed DFD of a system----->solution
(b) in systems analysis of very complex systems
(c) as an aid to system design
(d) as an aid to programmers

5.2.3 By levelling a DFD we mean
(a) splitting it into different levels
(b) make its structure uniform
(c) expanding a process into one with more sub-processes giving more detail----->solution
(d) summarizing a DFD to specify only the essentials

5.2.4 A DFD is normally levelled as
(a) it is a good idea in design
(b) it is recommended by many experts

(c) it is easy to do it
(d) it is easier to read and understand a number of smaller DFDs than one large DFD----->solution

5.2.5 A DFD is levelled by
(a) examining complex processes in a DFD and expanding them into new DFDs with more processes which are easy to understand----->solution
(b) merging a number of simple processes in a DFD into a complex processes in a new DFD
(c) expanding the functions of a number of external entities into simpler functions
(d) splitting a number of data flows into simpler data flows

5.2.6 When a DFD is levelled no new
(a) data stores may appear
(b) external entities may appear----->solution
(c) processes may appear
(d) data flows may appear

5.2.7 When a DFD is levelled
(a) new external entities may be required
(b) no new processes are allowed
(c) no new data flows are allowed
(d) new data stores may be necessary and are allowed----->solution

5.2.8 When a DFD is levelled it is a good idea not to
(a) be concerned about the number of new processes at the next level
(b) allow more than 5 to 10 new processes at the next level for each expanded process ----->solution
(c) allow new data stores at the next level
(d) allow any new processes at the next level

5.2.9 When a process is expanded during levelling
(a) data flows entering it are replaced
(b) all data stores used by it are replaced
(c) all data flows entering it must also enter the levelled DFD----->solution
(d) all external entities used by it are replaced

5.3.1 Before developing a logical DFD it is a good idea to
a) develop a physical DFD----->solution
b) develop a system flow chart
c) determine the contents of all data stores
d) find out user's preferences

5.3.2 A physical DFD specifies
(a) what processes will be used
(b) who generates data and who processes it----->solution
(c) what each person in an organization does
(d) which data will be generated

5.3.3 A physical DFD
(a) has no means of showing material flow
(b) does not concern itself with material flow
(c) can show only stored material
(d) can show the flow of material ----->solution

Data flow diagrams that concentrate on the movement of data between processes are referred to as:
a. process models
b. data models
c. flow models
d. flow charts
Answer: a

Which of the following is not one of the four types of data flow diagrams?
a. current physical
b. current logical
c. updated physical
d. new physical
Answer:c

Graphically representing the functions, or processes, which capture, manipulate, store, and distribute data between a system and its environment and between components within a system refers to:
a. data modeling
b. flow charting
c. process modeling
d. transition modeling
Answer:c

Data flow diagrams that specify what people and technologies are used in which processes to move and transform data, accepting inputs and producing outputs are referred to as:
a. logical data flow diagrams
b. reference data flow diagrams
c. current physical data flow diagrams
d. logistic data flow diagrams
Answer:c

The diagram that shows the scope of the system, indicating what elements are inside and which are outside the system, is called a:
a. context diagram
b. level-2 diagram
c. referencing diagram
d. representative diagram
Answer:a

Which of the following is not one of the primary deliverables resulting from studying and documenting a system's processes?
a. context data flow diagram (DFD)
b. thorough descriptions of each DFD component
c. DFDs of the current logical system
d. state-transition diagram
Answer:d

A _____ shows what the system must do, regardless of how it will be implemented physically.
Logical model

A _____ shows what the system must do, regardless of how it will be implemented physically.
Logical model

In the systems design phase, you build a _____ that describes how the system will be constructed.
Physical model

A _____ uses various symbols to show how the system transforms input data into useful information.
Data flow diagram (DFD)

(T/F) A data flow diagram (DFD) shows how data moves through an information system but does not show program logic or processing steps. A set of DFDs provides a logical model that shows what the system does, not how it does it.
True

A _____receives input data and produces output that has a different content, form, or both.
Process

Processes contain the _____, also called _____ that transform the data and produce the required results.
Business logic , Business rules

A process symbol can be referred to as a_____, because the inputs, outputs, and general functions of the process ar c known, but the underlying details and logic of the process are hidden.
Black box

(T/F) By showing processes as black boxes, an analyst can create DFDs that show how the system functions, but av oid unnecessary detail and clutter.
True

A _____ is a path for data to move from one part of the information system to another. A data flow in a DFD repr esents one or more data items.
Data flow

(T/F) A process symbol can have more than one outgoing data flow. A process also can connect to any other symbol , including another process. A data flow, therefore, must have a process symbol on at least one end.
True

The APPLY INSURANCE PREMIUM process, for instance, produces output, but has no input data flow. Because it has no input, the process is called a _____ process.
Spontaneous generation
CALCULATE GROSS PAY is called a _____ process, which is a process that has input, but produces no out put.
Black hole

A _____ is a process that has at least one input and one output, but the input obviously is insufficient to gen erate the output shown. For example, a date of birth input is not sufficient to produce a final grade output in the CAL CULATE GRADE process.
Gray hole

(T/F) Spontaneous generation, black holes, and gray holes are impossible logically in a DFD because a process must act on input, shown by an incoming data flow, and produce output, represented by an outgoing data flow.
True

A _____ is used in a DFD to represent data that the system stores because one or more processes need to use th e data at a later time.
Data store

(T/F) The physical characteristics of a data store are unimportant because you are concerned only with a logical mod el. Also, the length of time that the data is stored is unimportant - it can be a matter of seconds while a transaction is processed or a period of months while data is accumulated for year-end processing. What is important is that a proce ss needs access to the data at some later time.
True

The _____ symbol for a data store is a flat rectangle that is open on the right side and closed on the left side.

Gane and Sarson

The symbol for an _____ is a rectangle, which may be shaded to make it look three dimensional. The name of the _____ appears inside the symbol.
Entity

DFD entities also are called _____ because they are data origins or final destinations.
Terminators

Systems analysts call an entity that supplies data to the system a _____, and an entity that receives data from th e system a sink.
Source

(T/F) During requirements modeling, you used interviews, questionnaires, and other techniques to gather facts about the system, and you learned how the various people, departments, data, and processes fit together to support busines s operations.
True

A _____ is a top-level view of an information system that shows the system's boundaries and scope.
Context diagram

The symbol represents the entire information system, and you identify it as _____
Process 0

_____ zooms in on the system and shows major internal processes, data flows, and data stores. It also repeats the entities and data flows that appear in the context diagram.
Diagram 0

When you explode a DFD, the higher-level diagram is called the_____, and the lower-level diagram is referred t o as the _____.
Parent diagram , child diagram

A _____ is a process that consists of a single function that is not exploded further.
Functional primitive

_____ is the process of drawing a series of increasingly detailed diagrams, until all functional primitives are i dentified.
Leveling

_____ maintains consistency among a set of DFDs by ensuring that input and output data flows align properly .
Balancing

_____ also is called exploding, partitioning, or decomposing.
Leveling

A_____, or_____, is a central storehouse of information about the system's data.
Data dictionary , data repository

A _____, also called a _____, is the smallest piece of data that has meaning within an information sys tem.
data element , data item or field

Data elements are combined into _____, also called _____.
Records , data structures

A _____ is a meaningful combination of related data elements that is included in a data flow or retained in a data store.
Record

(T/F) The more complex the system, the more difficult it is to maintain full and accurate documentation. Fortunately , modern CASE tools simplify the task.
True

The _____ specification for the origination point for the data element's values.
Source

The DFD beginning, or source, for the data flow; the origin can be a process, a data store, or an entity.
Origin

A reference number that identifies the process and indicates relationships among various levels in the system.
Process number

This section includes the input and output data flows. It also documents the processing steps and business logic.
Process description

The standard DFD names for the input data flows to the entity.
Input data flows

The standard DFD names for the data flows leaving the entity.
Output data flows

A _____ documents the details of a functional primitive, and represents a specific set of processing steps and business logic.
process description

The deliverables of process modeling state:
a. how you should develop the system during physical design
b. what you learned during requirements determination
c. how you should implement the new system during implementation
d. what you learned during project planning
Answer:b

Student data contained on an enrollment form is represented on a data flow diagram as a:
a. process
b. data flow
c. source
d. data store
Answer:b

Data in motion, moving from one place in a system to another, defines:
a. data store
b. process
c. source
d. data flow
Answer:d

Data at rest, which may take the form of many different physical representations, defines:
a. source
b. data store
c. data flow
d. process
Answer:b

A file folder containing orders is represented on a data flow diagram as a:
a. process
b. source
c. data flow
d. data store
Answer:d

A computer-based file containing employee information is represented on a data flow diagram as a:
a. data flow
b. source
c. data store
d. process
Answer:c

Calculating an employee's salary is represented on a data flow diagram as a:
a. data flow
b. source
c. data store
d. process
Answer:d

Recording a customer's payment is represented on a data flow diagram as a:
a. process
b. source
c. data flow
d. data store
Answer:a

A supplier of auto parts to our company is represented on a data flow diagram as a:
a. process
b. source
c. data flow
d. data store
Answer:b

The work or actions performed on data so that they are transformed, stored, or distributed defines:
a. source/sink
b. data store
c. data flow
d. process
Answer:d

The origin and/or destination of data, sometimes referred to as external entities defines:
a. source/sink
b. data store
c. data flow
d. process
Answer:a

An arrow on a data flow diagram represents a:
a. data store
b. data flow
c. process
d. source/sink
Answer:b

A square on a data flow diagram represents a:
a. data store

b. data flow
c. process
d. source/sink
Answer:d

In the Gane and Sarson model, a rectangle with rounded corners on a data flow diagram represents a:
a. data store
b. data flow
c. process
d. source/sink
Answer:c

In the Gane and Sarson model, a rectangle that is missing its right vertical sides on a data flow diagram represents a:
a. data store
b. data flow
c. process
d. source/sink
Answer:a

Which of the following is a true statement regarding sources/sinks?
a. Sources/sinks are always outside the information system and define the boundaries of the system.
b. Data must originate outside a system from one or more sources.
c. The system must produce information to one or more sinks.
d. All of the above.
Answer:d

A data flow diagram that represents a system's major processes, data flows, and data stores at a high level of detail refers to:
a. context diagram
b. level-1 diagram
c. level-0 diagram
d. level-00 diagram
Answer:c

If two processes are connected by a data flow, they are said to:
a. share the same timing effects
b. share the same data
c. be coupled to each other
d. be strapped to each other
Answer:c

By placing a data store between two processes, this:
a. decouples the processes
b. enables store and forward capabilities
c. enhances the flow of data between the processes
d. structures the processes

Answer:a

The act of going from a single system to several component processes refers to:
a. structuring
b. balancing
c. functional decomposition
d. formatting
Answer:c

A miracle process is one that:
a. has only inputs
b. has only outputs
c. cannot be exploded further
d. has insufficient inputs to produce the associated processes
Answer:b

A black hole is one that:
a. has only inputs
b. has only outputs
c. has not been exploded to show enough detail
d. has insufficient inputs to produce the associated processes
Answer:a

Which of the following is a true statement regarding a data store?
a. Data can move directly from one data store to another data store.
b. Data can move directly from a sink to a data store.
c. A data store has a noun phrase label.
d. Data can move from an outside source to a data store.
Answer:c

Which of the following is a true statement regarding data flows?
a. A data flow may have multiple directions between symbols.
b. A data flow to a data store means retrieve or use.
c. A data flow from a data store means update.
d. A join in a data flow means that exactly the same data comes from any of two or more different processes, data stores, or sources/sinks to a common location.
Answer:d

Which of the following is not a true statement regarding data flows?
a. A fork in a data flow means that exactly the same data goes from a common location to two or more different processes, data stores, or sources/sinks.
b. A data flow can go directly back to the same process it leaves.
c. A data flow has a noun phrase label.
d. A data flow has only one direction of flow between symbols.

Answer:b

On a data flow diagram, you may:
a. repeat data stores
b. repeat sources/sinks
c. repeat processes
d. both a and b
Answer:d

The lowest level of DFDs is called:
a. level-0 diagrams
b. context diagrams
c. level-1 diagrams
d. primitive data flow diagrams
Answer:d

A DFD that is a result of three nested decompositions of a series of subprocesses from a process on a level-0 diagram defines a:
a. level-3 diagram
b. level-1 diagram
c. level-2 diagram
d. primitive diagram
Answer:a

If an input from a source appears at level-0, it must:
a. appear on the context diagram
b. be connected to a data flow
c. be connected to a sink
d. be connected to a data store
Answer:a

The new logical model will differ from the current logical model by:
a. identifying which system functions will be automated and which will be manual
b. having additional functions, removing obsolete functions, and reorganizing inefficient flows
c. including an identification of the “technology” used to process the data
d. representing the physical implementation of the new system
Answer:b

The lowest level of decomposition for a data flow diagram is called the:
a. context diagram
b. level-0 diagram
c. level-1 diagram
d. primitive diagram
Answer:d

The impertinence characteristic of a good systems analyst is represented by which of the following statements?
a. You must challenge yourself to look at the organization in new ways.
b. Every fact must fit with every other fact.
c. Assume anything is possible, and eliminate the infeasible.
d. You should question everything.
Answer: d

The impartiality characteristic of a good systems analyst is represented by which of the following statements?
a. You must challenge yourself to look at the organization in new ways.
b. Your role is to find the best solution to a business problem or opportunity.
c. Assume anything is possible, and eliminate the infeasible.
d. You should question everything.
Answer: b

The primary deliverables from requirements determination include:
a. sets of forms, reports, and job descriptions
b. transcripts of interviews
c. notes from observation and from analysis documents
d. all of the above
Answer: d

Traditional methods of collecting systems requirements include:
a. individual interviews
b. observing workers
c. group interviews
d. all of the above
Answer: d

8. Entity relationship diagramming (ERD) is a graphical drawing technique developed by:
a) Cole and Weston
b) Thomas Barton
c) Peter Chen
d) Alan Dennis
e) Martin and Chang
Ans: c

9. An entity relationship diagram (ERD):
a) Is a use-case diagram enhanced graphically to show data and process modeling
b) Is a high-level CASE diagram of data modeling used in business systems
c) Is an illustration of external data flows to and from a business systems
d) Is a picture that shows the information that is created, stored and used by a business system
e) Is a graphical display of the processes in a business system
Ans: d

An analyst can read an ERD to:
a) Discover the individual pieces of information in a system and how they are organized and related to each other
b) Find what processes use what data
c) Determine the cardinality of processes in a system and if the modality of process is 1:M; 1:1; or M:N
d) Evaluate data structure hierarchies as to processing anomalies in a business system
e) Discover how the people, places and things in a business system are generated, moved, transformed and stored
Ans: a

On an ERD _____:
a) Processes are listed alphabetically with relationship connections drawn between processes
b) Data elements are listed alphabetically with a cross listing to the processes that manipulate them
c) Data elements are described as singular (1:1); plurals (1:N); or didactic (M:N)
d) Data elements are grouped in a hierarchical structure that is uniquely identified by number
e) Data elements are listed together and place inside boxes called entities.
Ans: e

Lines on an ERD diagram indicate:
a) Hierarchies between processes
b) Relationships among the data
c) Plurality of data items
d) Uniqueness of data items
e) Primary keys
Ans: b

13. Which of the following is NOT true about ERDs?
a) Special symbols are added to show high-level business rules
b) The diagrams are drawn in a sequential order – from top to bottom
c) Similar kinds of information are listed together in entities
d) ERD's are data modeling techniques
e) Lines are drawn to show relationships among the data
Ans: b

14. Which is NOT an element of an Entity Relationship Diagram?
a) Cardinality
b) Modality
c) Attribute
d) Relationship
e) Data
Ans: e

As analysts move from logical design to physical design, one of the actions they will do is:
a) Create physical use cases, with real triggers and processes
b) Create physical DFDs

c) Create actual programs
d) Develop HIPO charts
e) Develop Gantt diagrams
Ans: b

Physical DFDs will be shared with ___
a) Project sponsors
b) Users
c) Programmers / Designers
d) Business managers
e) External entities
Ans: c

The first step in creating a Physical Data Flow Diagram is
a) Update the metadata in the CASE repository
b) Draw a human-machine boundary
c) Add implementation references
d) Add system-related data stores, data flows and processes
e) Update the data elements in the data flows
Ans: c

The second step in creating a Physical Data Flow Diagram is
a) Update the metadata in the CASE repository
b) Draw a human-machine boundary
c) Add implementation references
d) Add system-related data stores, data flows and processes
e) Update the data elements in the data flows
Ans: b

The third step in creating a Physical Data Flow Diagram is
a) Update the metadata in the CASE repository
b) Draw a human-machine boundary
c) Add implementation references
d) Add system-related data stores, data flows and processes
e) Update the data elements in the data flows
Ans: d

10. The fourth step in creating a Physical Data Flow Diagram is
a) Update the metadata in the CASE repository
b) Draw a human-machine boundary
c) Add implementation references
d) Add system-related data stores, data flows and processes
e) Update the data elements in the data flows
Ans: e

11. The fifth step in creating a Physical Data Flow Diagram is

a) Update the metadata in the CASE repository
b) Draw a human-machine boundary
c) Add implementation references
d) Add system-related data stores, data flows and processes
e) Update the data elements in the data flows
Ans: a

By definition, external entities on the DFD:
a) Are used as the starting point for the physical data flow diagram
b) Are outside the scope of the system
c) Will be the top of the structure chart
d) Will become database table entries
e) Are updated with metadata to become part of the physical DFD
Ans: b

When changing a logical DFD into a physical DFD, it might be necessary to _____.
a) Add system-related data stores, data flows and processes
b) Normalize the logical DFD into 3NF
c) Create the user-interface with smaller fonts
d) Change the system architecture to three-tiered architecture
e) Delete extraneous data stores and delete extraneous data flows
Ans: a

Many of the data stores in the logical DFD will be changed into encrypted word processing documents when a physi cal DFD
is developed. False

When building the physical data flow diagram, processes may become html web pages or Visual Basic screens. True

1. The outcome of the analysis phase is the:
a) Feasibility Analysis document
b) System proposal document
c) System specification document
d) System request document
e) Business Process document
Ans: b

2. In the SDLC (Systems Development Life Cycle), what comes after the analysis phase?
a) Approval phase
b) Design phase
c) Development phase
d) Implementation phase
e) Planning phase
Ans: b

3. The outcome of the planning phase is the:

a) Test plan
b) System proposal document
c) System specification document
d) System request document
e) Business Process document
Ans: d

4. The outcome of the design phase is the:
a) Feasibility Analysis document
b) System proposal document
c) System specification document
d) System request document
e) Business Process document
Ans: c

5. Another outcome of the planning phase is the:
a) Feasibility Analysis document
b) Project Plan
c) System specification document
d) System proposal document
e) Business Process document
Ans: b

Ted is creating a project plan. Which phase of the SDLC is he working in?
a) Planning
b) Analysis
c) Design
d) Implementation
e) Project plans are created in both the Analysis and Design phase
Ans: a

22. Shauna is doing interviewing. What would most likely be the SDLC phase for her?
a) Planning
b) Analysis
c) Design
d) Implementation
e) Project plans are created in both the Analysis and Design phase
Ans: b

23. Simon is determining ROI and “Should we build it” for a system. Which phase of the SDLC is he working in?
a) Planning
b) Analysis
c) Design
d) Implementation
e) ROI comes after implementation when all the data is in and the actual return on investment can be properly calcul
ated

Ans: a

24. Michaela is a systems analyst who is determining business requirements. What would most likely be the SDLC p
hase for
her?
a) Planning
b) Analysis
c) Design
d) Implementation
e) Business requirements are not developed by systems analysts, but by business analysts
Ans: b

25. Kumar is creating use cases. Which phase of the SDLC is he working in?
a) Planning
b) Analysis
c) Design
d) Implementation
e) Use cases are created in both the Analysis and Design phase
Ans: a

26. Rosita is conducting alpha tests. What SDLC phase is she in?
a) Planning
b) Analysis
c) Design
d) Implementation
e) It is hard to say, as alpha tests can occur at any time in the SDLC
Ans: d

27. Chang is working on “How will this system work”. What SDLC phase is he in?
a) Planning
b) Analysis
c) Design
d) Implementation
e) Transition
Ans: c

Ting-You is focusing on delivery and support of the system. What SDLC phase is she in?
a) Planning
b) Analysis
c) Design
d) Implementation
e) Feasibility
Ans: d

29. Rodger is working on ‘why build the system’. He is in what SDLC phase?
a) Planning

b) Analysis
c) Design
d) Implementation
e) Testing
Ans: a

30. Alice is calculating whether a system will lower costs or increase revenues. What SDLC phase is she in?
a) Planning
b) Analysis
c) Design
d) Implementation
e) Evaluation
Ans: a

32. Which would normally NOT be a part of the implementation phase?
a) System construction
b) Testing
c) Installation
d) Creating a support plan
e) Creating database and file specifications
Ans: e

36. Dan is looking at customer satisfaction with a new system. This is probably a:
a) Tangible cost
b) Tangible benefit
c) Intangible cost
d) Intangible benefit
e) Business requirement
Ans: b

Anny is planning on talking with a clerk and a manager in the accounts payable area, a manager in the procurement department, and two vendors. She is probably doing:
a) Observation
b) Interviews
c) JAD
d) Documentation analysis
e) Organizational Feasibility
Ans: b

Kallie is creating use cases, data flow diagrams and entity relationship diagrams. In what phase of the SDLC would she do
this?
a) Planning
b) Analysis
c) Design
d) Construction

e) Implementation
Ans: b

60. Andrew is pondering, “can we build it”. This is probably:
a) Technical feasibility
b) Economic feasibility
c) Interviewing
d) Observation
e) Fact finding
Ans: a

Technical feasibility is generally done in the planning phase of the SDLC. True

The primary output of the planning phase is the System Request. True

86. The primary output of the analysis phase is the System Specifications. False

87. The primary output of the analysis phase is the System Proposal. True

88. The normal sequence of SDLC phase outputs (from beginning to end) would be: System Request; System Propo sal; System
Specifications; and Installed system. True

Test plans are generally created in the Design phase of the SDLC. False

90. The question ‘Can we build it’ is asked in the design phase. False

91. Interviewing is generally done in the analysis phase of the SDLC. True

92. Economic feasibility is generally done in the design phase of the SDLC. False

93. Juan is creating use cases. He is working in the design phase of the SDLC. False

Karolyn is writing the system proposal. She would do this in the Design phase of the SDLC. False

An example of a functional requirement is _____
a) Access to the customer order system
b) System should be available in English and Spanish
c) System can be accessed through a Blackberry device

d) Output can be displayed in Internet Explorer, in Firefox, or in Google Chrome browsers
e) System is automatically updated every 5 seconds
Ans: a

When gathering requirements, the most commonly used technique is: _____
a) Document Analysis
b) Interviews
c) Joint Application Development (JAD) sessions
d) Questionnaires / surveys
e) Observation
Ans: b

Rosa is creating an interview plan that lists the questions that she will ask and she is trying to anticipate the possible answers.
This would be done in which step of the interview process?
a) Selecting interviewees
b) Designing interview questions
c) Preparing for the interview
d) Conducting the interview
e) Post-interview follow-up
Ans: c

53. Bridget needs to interview Yuri. She contacts him to verify the areas where he has knowledge so he is able to an swer the
questions. This would be done in which step of the interview process?
a) Selecting interviewees
b) Designing interview questions
c) Preparing for the interview
d) Conducting the interview
e) Post-interview follow-up
Ans: c

54. Paul is interviewing Ming. He first explains why he is there and what he wants to accomplish in the interview. T his would
be done in which step of the interview process?
a) Selecting interviewees
b) Designing interview questions
c) Preparing for the interview
d) Conducting the interview
e) Post-interview follow-up
Ans: d

55. Rafael, Fraud Unit Manager, has just received an interview report from Stefano, a systems analyst. Rafael was in terviewed
by Stefano, and was asked to make corrections and clarifications to the interview report. In what interview phase wo uld this
occur?
a) Selecting interviewees

b) Designing interview questions
c) Preparing for the interview
d) Conducting the interview
e) Post-interview follow-up
Ans: e

As part of the requirements gathering process, Mike is creating an interview schedule that lists all of the people who will be
interviewed, when and for what purpose. In what part of the interview process would this occur?
a) Selecting interviewees
b) Designing interview questions
c) Preparing for the interview
d) Conducting the interview
e) Post-interview follow-up
Ans: a

57. Damian, a systems analysst, is getting frustrated. With the other analysts on the project team, he started developi ng an
interview schedule. But, the list of interviewees has grown significantly. He should have known that would have hap pened
as it was discussed in the textbook in which of the following interviewing phases?
a) Selecting interviewees
b) Designing interview questions
c) Preparing for the interview
d) Conducting the interview
e) Post-interview follow-up
Ans: a

58. Michelle is going to facilitate a JAD session. She has prepared ground rules. In what step of the JAD process is t his done?
a) Selecting participants
b) Designing the JAD session
c) Preparing for the JAD session
d) Conducting the JAD session
e) Post-JAD follow-up
Ans: d

Creating an interview plan that lists the questions that you will ask and anticipates the possible answers is done in w hich step
of the interview process?
a) Conducting the interview
b) Designing interview questions
c) Preparing for the interview
d) Following-up
e) Selecting an interviewee
Ans: c

Logical process models are:
a) Models that describe processes without suggesting how they are conducted
b) Coded logic models
c) Models based upon implementing the if-then-else programming structure
d) Developed by the infrastructure analyst
e) Created in the system walkthough
Ans: a

5. Processes in data flow diagramming are represented by:
a) Rounded boxes
b) Arrows
c) Rectangles that is open on the right end
d) Enclosed rectangles
e) Circles
Ans: a

6. Data flows in data flow diagramming are represented by:
a) Rounded boxes
b) Arrows
c) Rectangles that are open on the right end
d) Closed rectangles
e) Circles
Ans: b

Data stores in data flow diagramming are represented by:
a) Rounded boxes
b) Arrows
c) Rectangles that are open on the right end
d) Rectangles
e) Circles
Ans: c

8. An external entity in data flow diagramming is represented by:
a) Rounded boxes
b) Arrows
c) Rectangles that are open on the right end
d) Rectangles
e) Circles
Ans: d

9. The relation between use cases and data flow diagrams is generally:
a) Use cases are developed by users and data flow diagrams are developed by systems analysts
b) Data flow diagrams are developed first and then use cases ensue
c) Use cases are developed first and then data flow diagrams ensue
d) Use cases show logical processes, while data flow diagrams show physical processes
e) There is not a relationship between use cases and data flow diagrams
Ans: c

10. A process is:
a) An activity or a function that is performed for some specific business reason
b) A single piece of data
c) A collection of data
d) A trigger to a use case
e) A person, organization or system outside of the system
Ans: a

11. A data flow is:
a) An activity or a function that is performed for some specific business reason
b) A single piece of data
c) A collection of data
d) A trigger to a use case
e) A person, organization or system outside of the system
Ans: b

12. A data store is:
a) An activity or a function that is performed for some specific business reason
b) A single piece of data
c) A collection of data
d) A trigger to a use case
e) A person, organization or system outside of the system
Ans: c

13. An external entity is:
a) An activity or a function that is performed for some specific business reason
b) A single piece of data
c) A collection of data
d) A trigger to a use case
e) A person, organization or system outside of the system
Ans: e

Brianna has a process has two inputs but only one output.
a) This is an error as there needs to be the same amount of inputs as outputs
b) This is an error as process do not have inputs or outputs
c) This is normal as all processes have two inputs and one output
d) This is normal as all processes need at least one input and at least one output
e) This is an error as processes only produce output
Ans: d

Andrea is creating a diagram model for processes (without regard to whether it is computerized or a manual process) . She is
probably creating _____.
a) A physical process model
b) A PMT (process management tool) model
c) A logical process model
d) A user process model
e) A UML system case model

Ans: c

Which Data Flow Diagram shows the entire system with its environment with only one process?
a) Context Diagram
b) Level 0 diagrams
c) Level 1 diagrams
d) Level 2 diagrams
e) All DFDs show this
Ans: a

Which Data Flow Diagrams shows all the major high-level processes of the system and how they are interrelated?
a) Context Diagrams
b) Level 0 diagram
c) Level 1 diagram
d) Level 2 diagram
e) Use Diagram
Ans: b

21. Which Data Flow Diagram does not have data stores?
a) Context diagram
b) Level 0 diagram
c) Level 1 diagrams
d) Level 2 diagrams
e) Process Diagram
Ans: a

22. The act of taking a level 1 diagram and creating level 2 diagrams is called:
a) Breakdown
b) Division
c) Decomposing
d) Splitting
e) Halving
Ans: c

23. On your level 0 diagram you have a process #2 and when you create a level 1 diagram for process #2, you might have
processes like:
a) 2.1, 2.2, 2.3
b) 2-1, 2-2, 2-3
c) 2A, 2B, 2C
d) 2-A, 2-B, 2-C
e) 2-initial, 2-main, 2-end
Ans: a

24. On your level 0 diagrams you have a process #3 and on your level 1 diagrams for process #3, you have processes numbered

3.1, 3.2, and 3.3. These would be called:
a) Offspring of process 3
b) Sons of process 3
c) Children of process 3
d) Roots of process 3
e) Leaves of process 3
Ans: c

On a data flow diagram, there is an arrow called ‘student record details’. This would be:
a) A process
b) A data flow
c) A data store
d) An external entity
e) It is impossible to tell from the information given
Ans: b

29. Vanessa has a data flow diagram with an item called ‘Register for Class’. That item would be:
a) A process
b) A data flow
c) A data store
d) An external entity
e) A process relationship
Ans: a

30. On the context diagram, Tim has a process called “Start the Process”. It has one output data flow ‘Initial Data’ a nd no input
data flows. This is:
a) Totally acceptable for a context diagram
b) Incorrect for a context diagram, but acceptable on the Level 0 diagram
c) Incorrect for both a context and Level 0 diagrams, but acceptable for a Level 1 diagram
d) Incorrect for context, level 0, level 1, but acceptable for a level 2 diagram
e) Incorrect in all situations
Ans: e

31. Andrei has a diagram that shows only one process and external entities. He is developing a:
a) Context diagram
b) Use case diagram
c) Level 0 diagram
d) Level 1 diagram
e) Level 2 diagram
Ans: a

32. What diagram will show all the major processes numbered 1, 2, 3, (etc.) external entities and major data stores?
a) Context diagram
b) Decision Tree
c) Level 1 diagram
d) Level 2 diagram
e) Level 0 diagram
Ans: e

33. What diagram will have processes with one decimal place (like 3.1, 3.2, and 3.3) and might have flows coming i n (or going
out) that are not illustrated?
a) Context diagram
b) Level 0 diagram
c) Level 1 diagram
d) UML state diagram
e) Level 0 diagram
Ans: c

34. What diagram will have sub-processes with numbers like 3.3.1, 3.3.2, 3.3.3 (etc) and also have flows coming in (or going
out) that are not illustrated?
a) Context diagram
b) Level 0 diagram
c) Gantt diagram
d) Level 1 diagram
e) Level 2 diagram
Ans: e

36. The context diagram shows:
a) Detailed processing logic
b) All major processes
c) All the data stores in the system
d) The “big picture” of the system with external entities and only one process
e) The system in context with all other systems in that department (for example, accounts payable, accounts receivab le, etc.)
Ans: d

A data flow is:
a) An activity of a function that is performed for some specific business reason
b) A single piece of data within a system
c) A collection of data within a system
d) A person, organization or system that is external to the system
e) A combination of function and the data it acts upon
Ans: b

39. A data store is:
a) An activity of a function that is performed for some specific business reason
b) A single piece of data within a system
c) A collection of data within a system
d) A person, organization or system that is external to the system
e) A combination of function and the data it acts upon
Ans: c

40. An external entity is:
a) An activity of a function that is performed for some specific business reason

b) A single piece of data within a system
c) A collection of data within a system
d) A person, organization or system that is external to the system
e) A combination of function and the data it acts upon
Ans: d

41. Carlos has a Level 0 DFD diagram where one of the external entities is the “Internal Revenue Service” – and he has a data
store called “Tax Rate Table”. He has drawn a data flow arrow from the Internal Revenue Service to the data store a s the
data has been loaded into the Tax Rate Table prior to the processing. What would be true?
a) This is correct
b) This is incorrect, ‘data at rest stays at rest until moved by a process’ so he needs a process (like ‘load Tax Rate Ta ble’) first in
this system
c) This is incorrect – he doesn’t need a data flow as the data was loaded into the Tax Rate Table someplace else (wit hin the
payroll system someplace, but not in this process)
d) This is almost correct. The correct diagram would be a dashed line indicating that the loading of the data was imp lied prior
to the start of this process
e) This is incorrect. What should happen is an ‘external process’ should be called at the start of the process – like “C all IRS for
data load”
Ans: c

43. Amy has created a context diagram. What one DFD component is probably not shown?
a) Process
b) Data flow
c) UML Stage
d) Data store
e) External Entity
Ans: d

44. Which of the following is NOT true?
a) Every process has at least one input data flow
b) Every data flow connects to at least one process
c) Every external entity has at least one input or one output data flow
d) Every data flow has a unique name that is a verb phrase
e) Every process has at least one output data flow
Ans: d

Which of the following is NOT correct?
a) Every set of DFD’s must have one context diagram
b) Every process is wholly and completely described by the processes on its children DFD’s
c) Every process must be broken down farther on Level 1 and Level 2 diagrams
d) Every data store has at least one input data flow someplace in the entire DFD system
e) Every process has a unique name that is a action oriented verb phrase
Ans: c

46. Decomposing a DFD means:
a) Balancing the processes so that each process has three and only three sub-processes
b) Breaking complex processes into a structured set of detailed diagrams
c) Doing a walk through on the entire DFD structure with all the analysts on the project team
d) Taking lower levels of process refinement and aggregating them into a major system
e) Making sure that all data stores are shown on each child DFD diagram
Ans: b

47. Chunxia is balancing her DFD. This means she is:
a) Making sure that all information presented at one level is accurately represented in the next level
b) Making sure that each data store has at least one input data flow and at least one output data flow
c) Making sure that each process has at least one input data flow and at least one output data flow
d) Making sure that all processes start with action verb phrases
e) Making sure that all data flows have noun names
Ans: a

48. Data flow diagrams are:
a) Usually created by users and reviewed by analysts
b) Usually jointly created by analysts and users
c) Usually created by the project team and reviewed by users for correctness
d) Usually created by the project champion and reviewed by the project team
e) Usually created by business analyst and reviewed by the infrastructure analyst
Ans: c

49. Which would be the normal order of tasks?
a) Requirements gathering, creating DFDs, creating use cases
b) Creating use cases; creating DFD, holding JAD sessions
c) Interviewing and/or JAD sessions; creating use cases; creating data flow diagrams
d) Doing BPR, analyzing documents, creating DFDs, creating use cases
e) Doing activity elimination, doing use cases, doing DFDs
Ans: c

50. Tom is trying to change his Use Case into a Data Flow Diagram. He has found that a use case step generally is th e same as a
_____ on the Level 1 Data flow diagram.
a) Process
b) External Entity
c) Data flow
d) Internal Entity
e) Data store
Ans: a

51. Which of the following would be a “miracle” error on a DFD?
a) A data store has only an output data flow
b) A data store has only an input data flow
c) A process has no input data flows
d) A process has no output data flows

e) An external entity shows up on a Level 2 diagram
Ans: c

Which of the following would be a ‘black hole’ error on a DFD?
a) A process has no input
b) A process has no output
c) A process has four inputs and only three outputs
d) Data moves directly from a data store from an external entity
e) Two processes send data flows to the same data store
Ans: b

60. Data Flow diagramming is a tool for doing process modeling. True

Data flow diagrams (as the name implies) focus on the physical data in a system. False

With logical process modeling (using data flow diagrams), you can tell if the process is a manual one or a computeri zed one.
False

External entities in a DFD are shown as circles. False

Processes in DFDs are shown as circles in the Gane and Sarson notation. False

Processes in DFDs are shown as rounded rectangles in the Gane and Sarson notation. True

In drawing DFD’s, arrows are used to show data flows. True

A repository for data in DFDs is called a ‘data store’ True

Data that is coming from a process and going to a data store (or database) will have an arrow head pointing towards the data
store. True

Data (like Year-to-date totals) that come from a data store and are used in a process (like ‘Calculate YTD Totals’) an d then
the updated amounts are written back to the data store – can be drawn on a DFD model as a two-headed arrow. False

Every process on a DFD must have at least one input data flow. True

Every process on a DFD must have at least one input data flow. True

78. Data flows to a process must be balanced, like if there are two input data flows, there MUST be two output data flows. False

79. Processes on a DFD are named with noun phrases (like: Payroll Update Process). False

80. Every process has a unique identification number, a name and a description. True

81. Processes should be named with a verb and ending with a noun (like Calculate Sales Tax). True

82. A data flow is a single piece of data – or a logical collection of several pieces of information. True

83. Data flows are named with verb phrases (like 'Move Payroll Information to Payroll Database'). False

84. One end of every data flow will always come from – or go to – a process – with an arrow showing the direction i nto or out of
the process. True

Data stores are named with nouns and have an identification number and description. True

The first DFD in every business process model is the Level 0 diagram. False

Context diagrams show the entire system in context with the environment (like external entities). True

A 'black hole' error on a DFD is when a process has inputs but no outputs. True

104. A 'black hole' error on a DFD is when a process creates output without an input. False

Role-playing the use case with actual users is a good way to:
i) Identify the use case
ii) Identify the major steps within each use case
iii) Identify elements within
iv) Confirm the use case---->solution

A new patient calls up an optometrist office to make an appointment. On a DFD diagram, the new patient would be r epresented by:
i) a data flow
ii) a process
iii) an external entity--->solution
iv) a trigger
v) a data store

Processes in data flow diagramming are represented by:
i) Rounded boxes---->solution
ii) Arrows
iii) Rectangles that is open on the right end
iv) Enclosed rectangles

Systems analysts must understand how to apply technology in order to
solve problems. true

The role of the Actor in Use-case diagram is to define the Logic of the program. False

8. Processes in DFDs are shown as rounded triangles in the Gane and Sarson notation. False

9. Data flow diagrams (as the name implies) focus on the physical data in a system.false

Which Data Flow Diagram shows the entire system with its environment with only one process?
a. Context Diagram---->solution
b. Level 0 diagrams
c. Level 1 diagrams
d. Level 2 diagrams
e. All DFDs show this

7. Which would normally NOT be a part of the implementation phase?
a. System construction
b. Testing
c. Installation
d. Documentation
e. Creating database and file specifications--->solution

In the user interface design process when the analysts examine the DFDs and use cases developed in the analysis phase and interview users, the analyst will develop:
a. Interface structure diagram
b. Case scenario---->solution
c. Interface design prototype
d. Interface standards
e. Physical DFD

The most common cause of schedule problems during application development is:
a. Weather related (like hurricanes, tornados, wildfires)
b. Hardware and server incompatibilities
c. Scope creep problems--->solution
d. Switching to different development tools (such as a new version of your programming language)
e. None of the above

Data flows to a process must be balanced, like if there are two input data flows, there MUST be two output data flows. False

7 Technical feasibility is generally done in the planning phase of the SDLC. True

ERDs are drawn in several levels: Context ERD diagrams;
Level 0 ERD diagrams; Level 1 ERD diagrams. False

In a DFD external entities are represented by a
i) rectangle--->solution
ii) ellipse
iii) diamond shaped box
iv) circle

7. External Entities may be a
i) source of input data only
ii) source of input data or destination of results--->solution
iii) destination of results only
iv) repository of data

Interviewing is generally done in the analysis phase of the SDLC.true

Non-Functional Requirements is a process the system has to perform and
Information the system must contain. False

5. Logical models show not only what a system is or does, but also how the
system is implemented. False

6. 2. In data flow diagrams, open-ended boxes represent data stores. True

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