Questions List

UML :: Chap-10 (3-1)

1 S 1

How does an algorithmic technique differ from a non-algorithmic technique?

1 *
Algorithmic techniques describe the internal logic of an operation, while non-algorithmic techniques do not.

2
Algorithmic techniques describe only the external interface of an operation, whereas non-algorithmic techniques also describe the internal details.

3
Algorithmic techniques are used to describe algorithmically complex operations, while non-algorithmic techniques are used to describe only simple operations.

2 S 1

How does pseudo-code differ from Structured English?

1 *
The syntax and vocabulary of pseudo-code resemble those of a specific programming language, while Structured English is language-neutral.

2
The syntax and vocabulary of Structured English resemble those of a specific programming language, while pseudo-code is language-neutral.

3
Pseudo-code is useful only for procedural programming languages, such as C, while Structured English is useful for any programming language, including object-oriented languages.

3 S 1

One of the following is not a control structure in Structured English. Which one?

1 *
GoTo.

2
Iteration.

3
Selection.

4 S 1

One of the following would not normally be included in a contract. Which one?

1 *
The object identifiers of other objects to which events will be transmitted.

2
The operation signature.

3
Events that the operation will transmit to other objects.

5 S 1

Only one of the following is a non-algorithmic technique. Which one is it?

1 *
Decision table.

2
Activity diagram.

3
Structured English.

6 S 1

Only one of the following is an algorithmic technique. Which one is it?

1 *
Activity diagram.

2
Decision table.

3
Pre- and post-condition pair.

7	S	1					

What do OCL statements generally contain?

1	*			

A context, a property of the context and an operation on that property.

2				

Sequence, selection and iteration structures.

3				

Operation intent, operation signature and logic description.

8	S	1					

What is the advantage of using contracts in operation specification?

1	*			

A contract encourages encapsulation by concentrating on the service that an object will provide to other objects and by ignoring the way that the service is to be achieved.

2				

A contract cannot be broken and thus the software will be more reliable in operation.

3				

A contract encourages better design and testing by specifying exactly how an object will achieve a service that it is to provide to other objects.

9	S	1					

Which of the following best describes the main use of OCL?

1	*			

OCL is used to give precise definition to any constraints in a UML model that cannot be expressed clearly and unambiguously in a graphical notation.

2				

OCL is used to describe the interaction between objects in more detail than is shown graphically in an interaction sequence diagram.

3				

OCL is used specifically to document operation specifications.

Questions List

UML :: Chap-11 (3-1)

1 S 1

A guard condition may be associated with a transition. Which of the following statements best applies to guard conditions?

1 *
A guard condition may involve attributes and links of the object that owns the statechart.

2
A guard condition may only involve attributes of the object that owns the statechart.

3
A guard condition may only involve parameters from the triggering event.

2 S 1

A statechart may have states that include substates. Which of following is true?

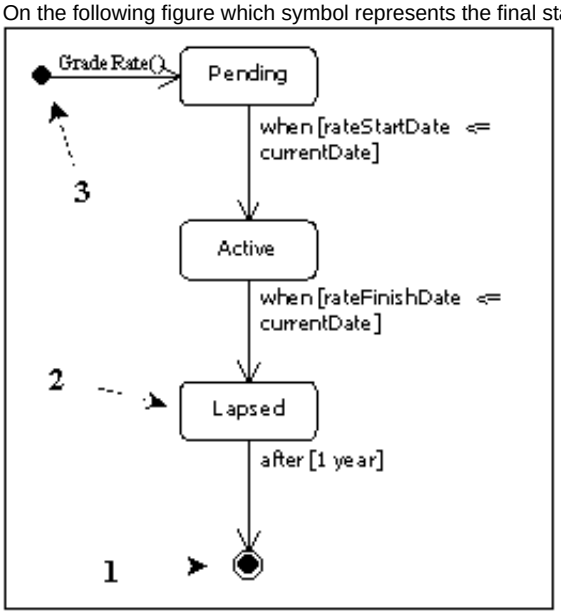
1 *
An object may occupy more multiple concurrent substates simultaneously.

2
An object may occupy only two concurrent substates simultaneously.

3
An object may only occupy one substate at a time.

3 S 1

On the following figure which symbol represents the final state in the statechart?



1 *
1

2
2

3
3

4 S 1

The behavioural approach to constructing statecharts involves which of the following?

1 *
All interaction sequence diagrams involving classes that have heavy messaging should be analysed.

2
All interaction sequence diagrams should be analysed first.

3
One interaction sequence diagram for each class must be analysed.

5 S 1

The lifecycle approach to constructing statecharts is so called for which of the following reasons.

1	*	It attempts to identify the lifecycle of a class from use cases and other requirements documents.
2		The statecharts are constructed throughout the development lifecycle.
3		Collaboration diagrams rather than sequence diagrams are used to analyse behaviour.

6 S 1

The transition from one state to another is triggered by an event. One type of event is a change event. Which of the following statements is true?

1	*	A change event occurs when a condition becomes true.
2		A change event occurs when a condition changes.
3		A change event occurs when an attribute value changes in an object.

7 S 1

When a statechart is checked for consistency with other models of the system which of the following is true?

1	*	Every action should correspond to the execution of an operation on the appropriate class.
2		Every operation in a class must appear as an event on a statechart.
3		Every event must appear on a sequence diagram.

8 S 1

When an internal transition occurs within a state which of the following is true?

1	*	The entry and exit actions are not triggered.
2		The entry and exit actions, if present, are triggered.
3		The entry and exit actions if present and the action tied to the internal transition are all triggered.

9 S 1

When an object exits a composite state which of the following is true.

1	*	Whatever combination of substates the composite is in, all those substates are exited.
2		Each of the submachines in the composite state must enter their final state.
3		At least one of the submachines in the composite state must enter its final state.

10 S 1

Which of the following is true?

1	*	A state is a condition during the life of an object or an interaction during which it satisfies some condition.
2		A state is never transitory, it always lasts for an interval of time.
3		An object always has more than one potential state.

11 S 1

Which of the following statements is true about actions and activities?

1	*	Both actions and activities may be tied to a state.
2		An activity may be tied to a transition.
3		An action may only be tied to transitions.

12 S 1

Which of the following statements is true about statecharts in general?				
1	*			
	A statechart must have at least one initial state.			
2				
	A statechart must have a final state.			
3				
	A statechart must have one initial and one final state.			

Questions List

UML :: Chap-12 (3-1)

1 S 1

What is meant by a secure design?

1 *
The design includes measures to protect the system from deliberate or inadvertent damage.

2
The design is held in encrypted format in a CASE tool repository.

3
The models are backed up nightly and the back-up stored off-site.

2 S 1

What is meant by an economical design?

1 *
The fixed costs and running costs of the system will be low.

2
The design itself was produced at a low cost.

3
The system will use inexpensive disks.

3 S 1

What is meant by design trade-offs?

1 *
A way of resolving conflicts between requirements and design constraints.

2
A way of achieving measurable objectives in design.

3
A way of producing reusable code.

4 S 1

What is meant by reusability in design?

1 *
Design of classes that can be reused in other systems.

2
Reuse of legacy systems.

3
Buying rather than building software.

5 S 1

What is meant by the term ‘measurable objectives’?

1 *
Objectives that can be quantified and have a specific numeric target.

2
Aims of the system that are vague and difficult to assess.

3
Strategic aims of the organisation that is getting a new system.

6 S 1

What is system design?

1 *
Designing the architecture of the system and setting standards, for example for user interface design.

2
Designing the inputs and outputs of the system, processes and data storage.

3
Designing classes that will implement the system in an object-oriented language.

7 S 1

Which combination of cohesion and coupling is desirable in a design?

1 *
High cohesion and low coupling.

2		High cohesion and high coupling.
3		Low cohesion and high coupling.

8	S	1	Which of the following is a description of logical design?
1	*		Design of aspects of the system without having to consider how they will physically be implemented.
2			Design of the logic used in operations, based on decision trees, decision tables or Object Constraint Language.
3			Design of the logic gates used in the implementation of the processor chips used in the system.

9	S	1	Which of the following is a list of characteristics of good analysis?
1	*		Completeness, consistency, correct scope and correct content.
2			Consistency, security, reliability and completeness.
3			Consistency, efficiency, effectiveness and correct scope.

10	S	1	Which of the following is a list of characteristics of good design?
1	*		Efficiency, reliability, security and flexibility.
2			Consistency, efficiency, effectiveness and correct scope.
3			Efficiency, redundancy, functionality and usability.

11	S	1	Which of the following is a measurable objective?
1	*		To despatch all orders received before 11.00 am on the same day.
2			To despatch orders more quickly.
3			To improve customer satisfaction.

12	S	1	Which of the following is an example of design?
1	*		The maximum length of the companyName attribute when printed will be 40 characters.
2			There will be a class called Client in the Agate system.
3			The Client class has an attribute called companyName.

13	S	1	Which of the following is claimed as an advantage of iterative development processes?
1	*		Risk mitigation—by identifying technical problems early on.
2			Logical design—by producing a design that is not tied to the physical implementation.
3			Diagram separation—by making it possible to use different kinds of diagrams in analysis from those used in design.

14	S	1	Which of the following is not a characteristic of a maintainable design?
1	*		The code is designed to require maintenance work equivalent to 60% of all staff time.
2			

								The developed program code and the design model are kept in sync.
		3						
								The design and program code are well documented.

15	S	1						
								Which of the following is not a measurable objective?
		1	*					
								To process more invoices.
		2						
								To reduce errors made by users by 50%.
		3						
								To cut response times by an average of 5 seconds.

16	S	1						
								Which of the following is not part of detailed design?
		1	*					
								Allocation of sub-systems to processors.
		2						
								Screen and window layouts in the form of user interface classes.
		3						
								Allocation of responsibilities to classes.

17	S	1						
								Which of the following is the best description of a design model?
		1	*					
								It shows how the system will work.
		2						
								It shows what the system will do.
		3						
								It shows why the system is required.

18	S	1						
								Which of the following might provide a measure of the usability of a system?
		1	*					
								The number of errors made by users.
		2						
								The number of errors made by programmers.
		3						
								The number of bugs found by system testers.

19	S	1						
								Which statement is an example of logical design?
		1	*					
								Communication between the Agate system and the company accounts system will be by passing messages.
		2						
								There will be a message sent to the accounts system called NewInvoice, which will be formatted in XML, and each invoice will have a six-digit invoice number allocated by the accounts system.
		3						
								Communication between the Agate system and the company accounts system will use the OpenJMS Java message server with persistent storage of messages provided by the MySQL database.

20	S	1						
								Which statement is true?
		1	*					
								Iterative processes such as the Unified Process give phases different names from activities to allow the same activities to take place in different phases.
		2						
								Iterative processes such as the Unified Process give phases different names from activities to confuse students.
		3						
								Iterative processes such as the Unified Process give phases different names from activities because they share the same namespace and must be unique.

Questions List

UML :: Chap-13 (3-1)

1 S 1

A scheduler provides which of the following facilities?

1 *
It can be used to ensure that each thread of control operates within the constraints on its response time.

2
It is useful for allocating computer-processing resources when time constraints are not tight.

3
It determines which parts of the system execute in a pre-determined sequence.

2 S 1

In the Model–View–Controller architecture which of the following best describes the role of the Model?

1 *
It informs each view when model data has changed.

2
It ensures that the view updates its presentation of data.

3
It accepts user input in the form of events, and triggers the execution of operations.

3 S 1

The advantages of the Model–View–Controller architecture include which of the following?

1 *
It supports diverse styles of view and controller.

2
It is best suited to process control applications.

3
It places complex functionality in the controller components.

4 S 1

The allocation of a system to multiple processors involves which of the following?

1 *
Concurrency requirements for each sub-system should be identified.

2
Each processor must use local data only.

3
Each processor must be able to operate independently.

5 S 1

The sub-division of an information system into sub-systems brings which of the following benefits?

1 *
It makes the system easier to maintain.

2
The constructed system will be smaller and hence easier to maintain.

3
It improves the performance of the system.

6 S 1

When constructing a layered architecture which of following is not a specific consideration?

1 *
Maintaining a consistent level of granularity for sub-systems.

2
Maintaining the interfaces for each layer.

3
The further sub-division of complex layers.

7 S 1

Which of the following is a property of a broker architecture?

1 *
It hides the server components from the client components.

2	It improves performance while providing a client component with services.
3	It acts a server component.

8	S	1						

Which of the following is considered to be a major element of system design?

1 *	Standards for code development and human computer interaction are determined.
2	Class diagrams are mapped onto tables in a relational database management system.
3	Data management classes are identified.

9	S	1						

Which of the following is consistent with Buschmann's definition of a software architecture (Buschmann et al., 1996)?

1 *	Software architecture describes the relationships between the components of the system.
2	The software architecture only determines the software sub-systems.
3	Software architecture determines the look and feel of an application.

10	S	1						

Which of the following is true about a closed layered architecture?

1 *	Dependencies between the layers are minimized.
2	The architecture is less open to change.
3	A layer may only communicate with any of the layers beneath it.

11	S	1						

Which of the following is true about an open layered architecture?

1 *	It is less easy to maintain.
2	System performance may be reduced.
3	It is more open to change.

12	S	1						

Which of the following statements is true about a client–server architecture?

1 *	The client requests services from the server.
2	The client interface must be specified first.
3	The server only provides the functionality required by the client.

Questions List

UML :: Chap-14 (3-1)

1 S 1

Encapsulation is best enforced by which of the following decisions regarding object visibility?

1 * All attributes are private and public operations are kept to a minimum.

2 All attributes and operations are private.

3 All attributes are private and all operations are public.

2 S 1

Good coupling is best characterised by which of the following?

1 * Keeping the number of message types between objects to a minimum.

2 Ensuring that sub-classes are not strongly linked to their superclass.

3 Ensuring that operations in the same class are linked.

3 S 1

How many collection classes could sensibly be used to implement a two-way many-to-many association?

1 * Two.

2 Two or more.

3 One.

4 S 1

If there is a dependency constraint between two or more attributes which of the following statements applies?

1 * Any change to the value of any of the attributes may require the other dependent attributes to be updated by one or more synchronizing operations.

2 The value of none of the attributes should be changed.

3 If the value of one of the attributes is changed then all the others must be updated by one or more synchronizing operations.

5 S 1

The Liskov Substitution Principle is best described by which of the following?

1 * A derived object may be treated as if it is the base object.

2 A derived object should be replaced by its base object.

3 Derived objects should be used instead of base objects.

6 S 1

When is a UML interface used?

1 * It describes an interface that a class may offer to another class.

2 It describes boundary classes.

3 It describes the human-computer interface.

7 S 1

When objects are being designed in detail the signature of each operation has to be specified. Which of the following statements is consistent with the term operation signature?

1	*			The operation name and the number of parameters are part of the operation signature.
2				Each operation in a class has the same signature.
3				A class may not have two operations with the same name.

8	S	1						

Which of the following best describes when primary operations should be shown on class diagrams?

1	*			Primary operations are shown on design class diagrams if they are part of the public interface of the class.
2				All primary operations are shown on class diagrams in design.
3				Primary operations are shown in class diagrams only if they modify attribute values.

9	S	1						

Which of the following is a beneficial consequence of good cohesion in a class?

1	*			The operations in the class will be easier to maintain.
2				The attributes in the class will only be accessed by the operations of that class.
3				The class will exhibit high levels of encapsulation.

10	S	1						

Which of the following statements best describe the application of referential integrity during object design?

1	*			An object may only refer to another object if they share a link.
2				When an object is deleted all objects to which it refers must be deleted.
3				Referential integrity only applies for one-to-one associations.

11	S	1						

Which of the following statements best describes what is involved in the task of designing associations?

1	*			It is concerned with how links between objects should be implemented.
2				Its main focus is determining the multiplicity of the associations.
3				It is concerned with specifying operations that may use the links between objects.

Questions List

UML :: Chap-15 (3-1)

1 S 1

A pattern is normally described in the format of a pattern template. Which of the following statements best describes the forces of a pattern?

1 *
The forces embody the constraints that must be addressed by the solution.

2
The forces describe why it is important to find a solution to the problem

3
The forces are the constraints that solution is unable to resolve.

2 S 1

Several key principles underlie the use of patterns. Which of the following is not a key principle involved in the use of patterns?

1 *
Conformance testing.

2
Abstraction.

3
Separation of concerns.

3 S 1

Which of the following best describes an advantage of the Singleton pattern?

1 *
The pattern can be used to ensure that no more than a fixed number of instances of the Singleton class are created.

2
Using the pattern always makes a system easier to maintain.

3
When the pattern is used global data can be accessed more quickly.

4 S 1

Which of the following best describes when to use the State pattern?

1 *
The pattern may be used when a class has many states.

2
The pattern may be used when a class has many operations.

3
The pattern may be used when an object appears to change class at run-time.

5 S 1

Which of the following is not an advantage of the State pattern?

1 *
The Singleton pattern may be used with the State pattern.

2
State behaviour is localized.

3
State transitions are made explicit.

6 S 1

Which of the following is not an issue that should be considered before using a pattern?

1 *
It is preferable to use patterns by themselves.

2
If a simpler solution exists it should be used in preference to the pattern.

3
It is important that the context of the problem is consistent with the context of the pattern.

7 S 1

Which of the following is not one of the categories defined for the GOF patterns?

1 *

								Static.
	2							
								Creational.
	3							
								Behavioural.

8	S	1						
								Which of the following statements best describes the relationship between patterns and frameworks?
	1	*						
								A framework may involve many patterns.
	2							
								A framework is more abstract than a pattern.
	3							
								A pattern may incorporate one or more frameworks.

9	S	1						
								Which of the following statements is most appropriate when using a pattern during information systems development?
	1	*						
								The pattern should be implemented with names that are meaningful in the context of the application.
	2							
								The pattern must be used without any changes to its overall structure.
	3							
								The names of the classes in the pattern should be given the general names from the pattern so that their roles are unambiguous.

10	S	1						
								Which of the following statements is true about the Composite pattern?
	1	*						
								The pattern makes it easier to add new leaf subclasses.
	2							
								The pattern must be used in conjunction with the Singleton pattern.
	3							
								The pattern makes it easier to add new operations to each of the leaf subclasses.

Questions List

UML :: Chap-17 (3-1)

1 S 1

Boundary classes will usually have a dependency on classes in some kind of user interface package, such as the Java Abstract Windowing Toolkit or the Microsoft Foundation Classes. What kind of dependency is this likely to be?

1 *
«import»

2
«realize»

3
«include»

2 S 1

What is recorded in an event–action table?

1 *
Current states, events that can occur in each state, the actions associated with the combination of state and event, and the next states after the actions have taken place.

2
The actions that objects can carry out and the events that take place as a result of those actions.

3
Events that objects can respond to and the actions that take place in response to those events.

3 S 1

What is the presentation layer concerned with?

1 *
Presenting the attribute values of objects to the user and other systems.

2
Storing the data represented by the attribute values of objects.

3
Acting as an interface between the tiers of the three-tier architecture.

4 S 1

What is the purpose of the history indicator in a statechart?

1 *
It shows that the state nested within another state will be recorded, and if a transition is made back to the history indicator, then the object will return to the recorded state.

2
When a transition enters the nested state it will restart at the start state.

3
If a transition is made to the history indicator then the object will return to the immediately preceding state, as if the transition had never happened.

5 S 1

What notation is used in a sequence diagram to show that an object instance is created by a message?

1 *
The arrow head of the message points at the object at the top of the lifeline.

2
The arrow head of the message is open.

3
A large ‘C’ for ‘Constructor’ is shown on the object lifeline.

6 S 1

What notation is used in a sequence diagram to show that an object instance is destroyed as a result of receiving a message?

1 *
A large ‘X’ is shown on the lifeline.

2
The arrow head of the message is open.

3
A large ‘D’ for ‘Destructor’ is shown on the lifeline.

7 S 1

Which of the following best describes a horizontal prototype?

1 *
A horizontal prototype deals with a single layer of a layered architecture.

2
A horizontal prototype deals only with the user interface

3
A horizontal prototype takes one sub-system and develops it across all the layers.

8 S 1

Which of the following best describes a throwaway prototype?

1 *
A throwaway prototype is discarded after it has been used to test out some aspect of the design.

2
A throwaway prototype takes one sub-system and develops it across all the layers.

3
A throwaway prototype is used to test the design of object deletion mechanisms.

9 S 1

Which of the following best describes a vertical prototype?

1 *
A vertical prototype takes one sub-system and develops it across all the layers.

2
A vertical prototype is discarded after it has been used to test out some aspect of the design.

3
A vertical prototype deals with a single layer of a layered architecture.

10 S 1

Which of the following can be achieved by modelling the state of the user interface?

1 *
Constraining the behaviour of the interface to prevent users making errors.

2
Passing responsibility for all validation to the controller class.

3
Describing the high-level requirements and main user tasks.

11 S 1

Which of the following elements of the Model–View–Controller architecture is essentially part of the presentation layer?

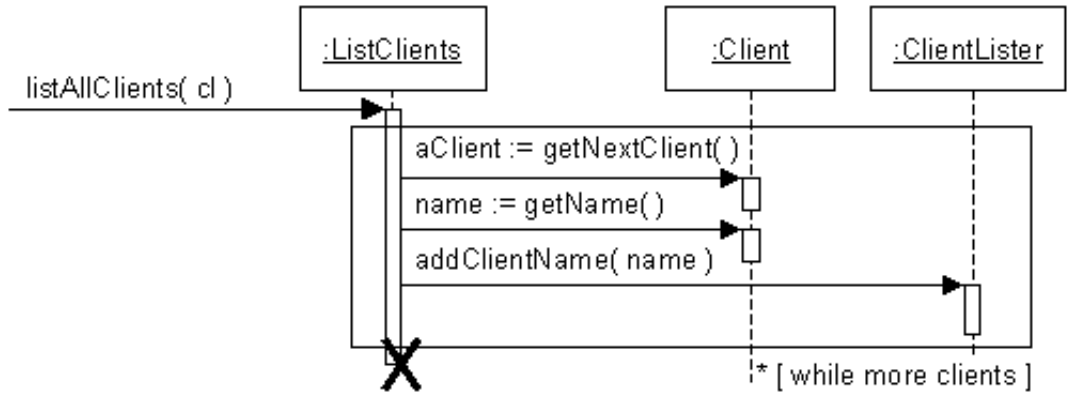
1 *
View.

2
Model.

3
Controller.

12 S 1

Which of the following is meant by the large rectangle in the diagram below?



1 *
The messages in the rectangle are repeated.

2

The messages within the rectangle result in the destruction of the :ListClients object.

3

The messages in the rectangle are all sent by the same object.

13 S 1

Which of the following is not a kind of prototype?

1 *

Lateral.

2

Horizontal.

3

Vertical.

14 S 1

Which of the following is not a reason for separating the display of instances of business classes from the business classes themselves?

1 *

The state behaviour of the interface is different from the state behaviour of the business objects.

2

For classes to be reusable they should not be tied to a particular way of displaying the attribute values of instances.

3

There is no one standard layout for the attributes of business objects, so the display is better handled by separate classes.

15 S 1

Which of the following is not a reason for using prototyping in the design of the user interface?

1 *

Visual development environments can be used to blur the distinction between the interface and the business logic.

2

Alternative approaches to the interface of a use case can be tried out.

3

Guidelines for the design of the interface can be tested.

16 S 1

Which of the following is the notation for the deep history indicator?

1 *

H* in a circle.

2

H in a circle.

3

«history» in a round-cornered rectangle.

17 S 1

Which of the following is the stereotype for a boundary class?

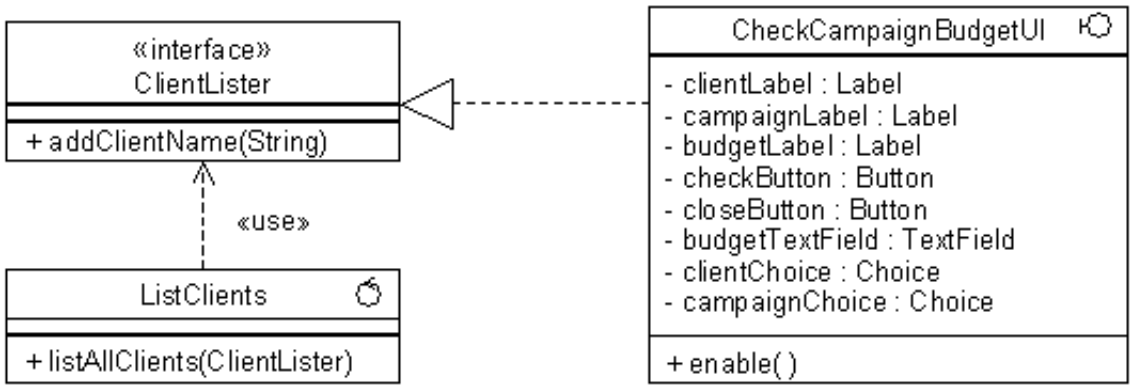
1 *

2

3

18 S 1

Which of the following statements best describes the excerpt from a class diagram shown below?



1	*		

CheckCampaignBudgetUI implements the ClientLister interface. ListClients uses the operations of the interface when sending

messages to CheckCampaignBudgetUI.

2

CheckCampaignBudgetUI inherits its behaviour from ClientLister. ListClients contains one or more ClientListers.

3

ListClients inherits its behaviour from ClientLister. CheckCampaignBudgetUI is a user interface class because of its relationship with ClientLister.

19 S 1

Which of the following types of class stereotype is always found in the presentation layer?

1 *

Boundary.

2

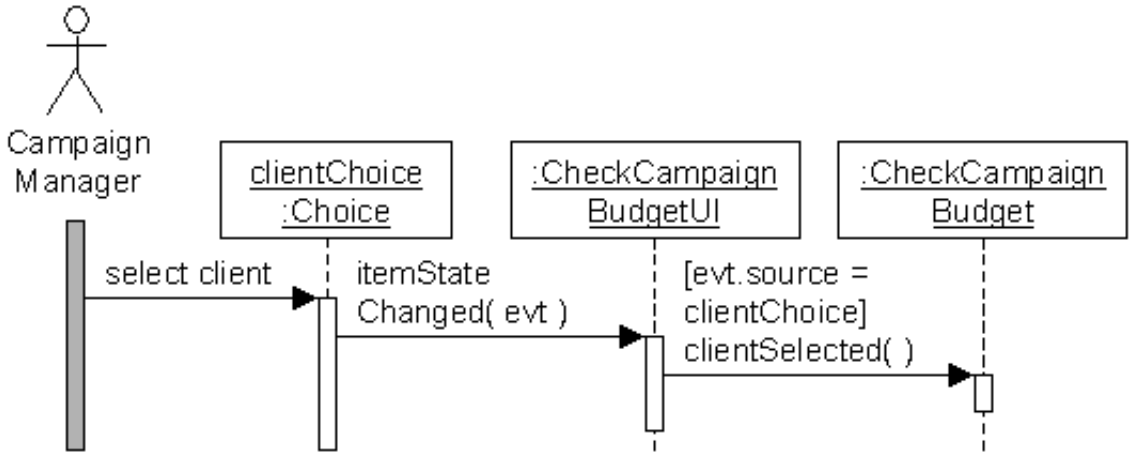
Control.

3

Entity.

20 S 1

Which of the objects in the diagram below would need to implement the ItemListener interface in order to respond to the itemStateChanged(evt) message?



1 *

CheckCampaignBudgetUI.

2

clientChoice:Choice.

3

CheckCampaignBudget.

21 S 1

Which three patterns do Gamma et al. use to describe the Model–View–Controller architecture?

1 *

Observer, Composite and Strategy.

2

Model, View and Controller.

3

Façade, ItemListener and Controller.

22 S 1

Why are statecharts used to model the user interface?

1 *

To model the permitted states of the user interface and the events that cause the user interface to change state.

2

To model the lifetime of all the user interface classes beyond the existence of a particular instance of the interface.

3

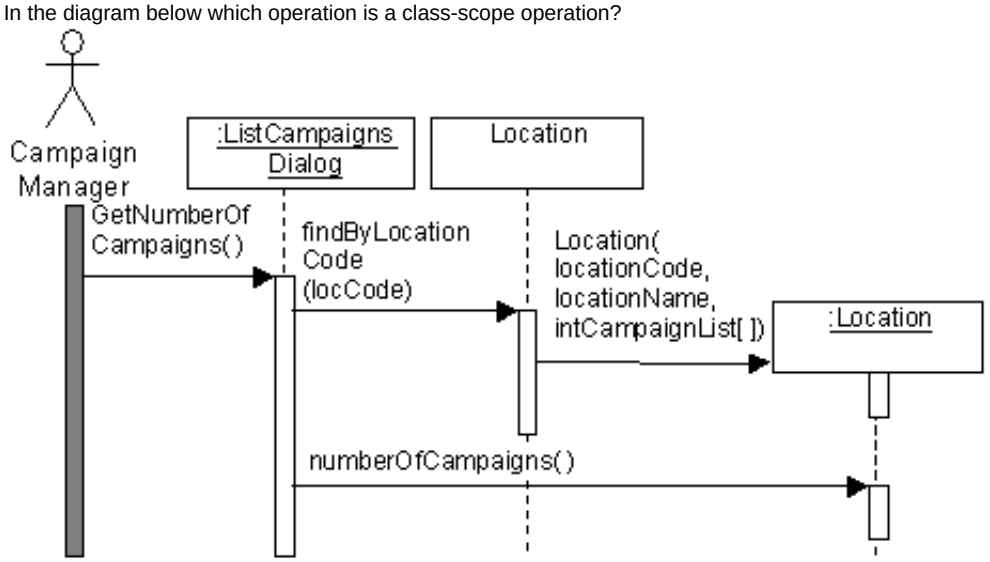
To show the sequential view of the user working through the user interface from top to bottom.

Questions List

UML :: Chap-18 (3-1)

1 | S | 1

In the diagram below which operation is a class-scope operation?



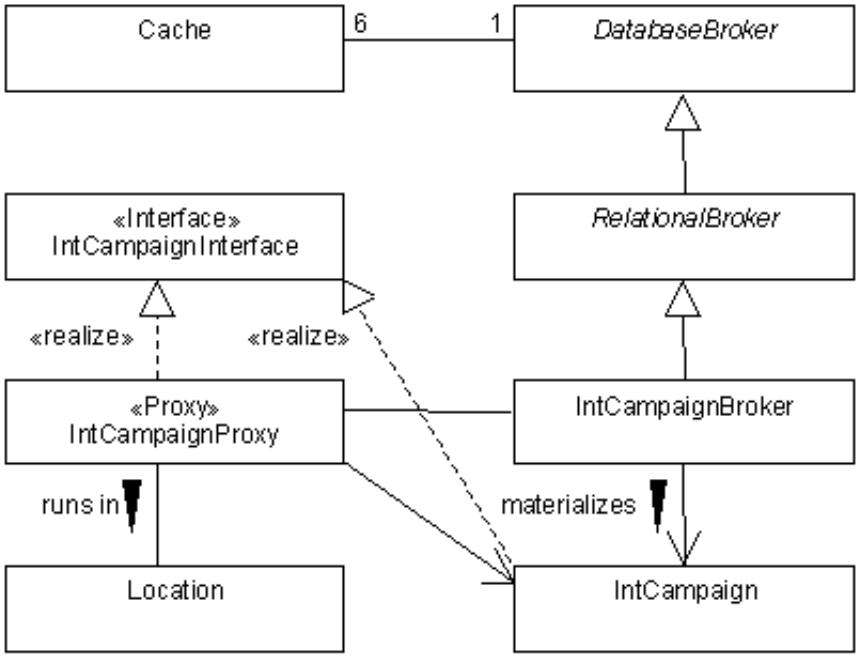
1 | * | findByLocationCode().

2 | numberOfCampaigns().

3 | Location().

2 | S | 1

In the diagram below, what is the purpose of the IntCampaignProxy class?



1 | * | The IntCampaignProxy acts as a placeholder for the actual IntCampaign. The IntCampaign is only materialized from the database when required.

		2						
			The IntCampaignProxy contains the IntCampaignBroker object.					
		3						
			The IntCampaignProxy decouples the IntCampaign from the cache.					

3	S	1						
		What is a hashing algorithm?						
		1	*					
			A way of converting record keys into numeric block addresses in a range of values.					
		2						
			1. A way of padding data in fixed length fields with the ASCII hash character '#'					
		3						
			A way of separating fields in records using the ASCII has character '#' as a delimiter.					

4	S	1						
		What is meant by normalization?						
		1	*					
			Converting complex data structures into tables that meet clearly defined criteria.					
		2						
			Removing dependencies from data in tables.					
		3						
			Converting class diagrams into entity-relationship diagrams.					

5	S	1						
		Which of the following best describes a throwaway prototype?						
		1	*					
			A throwaway prototype is discarded after it has been used to test out some aspect of the design.					
		2						
			A throwaway prototype takes one sub-system and develops it across all the layers.					
		3						
			A throwaway prototype is used to test the design of object deletion mechanisms.					

6	S	1						
		Which of the following best describes a variable length record structure?						
		1	*					
			Each record is made up of a number of fields, each of which may have a maximum length but has a minimum length of zero bytes. Either fields are separated by special delimiter characters or the length of each field is held in the record structure.					
		2						
			Each record is made up of a number of fields, each of which has a fixed length in bytes. If the data in a field does not fill that many bytes, it is padded with a special character, usually null or space.					
		3						
			Each record is tagged with a name in special characters. The end of the field is usually marked as well. Fields can contain other fields in complex nested structures.					

7	S	1						
		Which of the following best describes serial file organization?						
		1	*					
			Each record is written onto the end of the file. If a record is to be deleted, the file must be copied from the start to the deleted record, which is skipped, and written back to disk.					
		2						
			Each record is written to file in a predetermined order, usually based on a key field. Records must be added in the right place in the file.					
		3						
			Each record is located in the file by means of an algorithm that converts a key field into a position in the file.					

8	S	1						
		Which of the following is a valid list of file access methods?						
		1	*					
			Serial, index-sequential and direct.					
		2						
			Serial, sequential and random.					
		3						
			Tagged, serial and inverted.					

9 | S | 1

Which of the following is a valid list of types of file organization?

1 *
Serial, sequential and random.

2
Tagged, serial and variable length.

3
Hashed, index-sequential and serial.

10 | S | 1

Which of the following kinds of file would be used to store system settings?

1 *
Parameter file.

2
Temporary file.

3
Master file.

11 | S | 1

Which of the following kinds of objects are used in an object-oriented system?

1 *
Both persistent and transient objects.

2
Persistent objects only.

3
Transient objects only.

12 | S | 1

Which of the following statements best describes how a database stores data?

1 *
Databases provide a layer of abstraction between the way that data is presented to the user and the way that it is stored in files.

2
Relational databases store data in tables, and each table is a file.

3
Object databases store data in objects, and each object is a file.

13 | S | 1

Which of the following statements best describes what is meant by persistent data?

1 *
Data that must be stored after a program stops running and be available to other users.

2
Data that only exists while a program is running.

3
Data in objects that keep trying to save themselves to disk storage.

14 | S | 1

Which of the following types of record structure is used in an XML file?

1 *
Tagged.

2
Fixed length.

3
Header and detail.

15 | S | 1

Why might an object-oriented system use a relational DBMS?

1 *
Many organizations have existing relational databases containing existing business data.

2
Object databases are too complicated to use.

3
Relational databases are inherently better than object databases for business applications.

Questions List

UML :: Chap-19 (3-1)

1 | S | 1

Which of the following best describes white box testing?

1 * It tests the internal workings of the software and whether the software works as specified.

2 It tests whether the software produces the correct outputs for specific inputs.

3 It tests whether the software can be used ‘out of the box’ by end-users.

2 | S | 1

Which of the following examples conforms to Hungarian notation?

1 * iLength.

2 length.

3 LengthInt.

3 | S | 1

Which of the following examples conforms to the standard for attribute names used in the book and generally in Java programming?

1 * budgetTextField.

2 budgetTextField().

3 BudgetTextField

4 | S | 1

Which of the following examples conforms to the standard for class names used in the book and generally in Java programming?

1 * SalesOrderProxy .

2 Sales_Order_Proxy.

3 salesOrderProxy.

5 | S | 1

Which of the following is not likely to be a section in a post-implementation report?

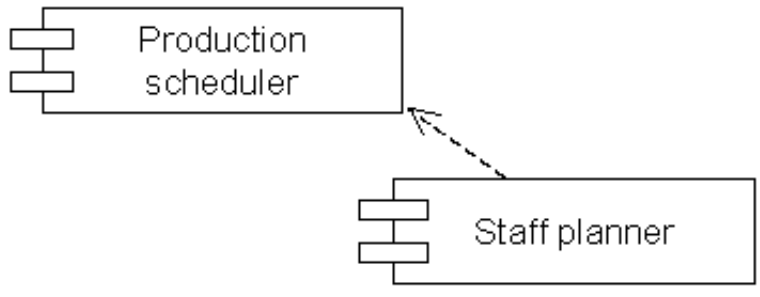
1 * Positive experiences.

2 Candidate components for reuse.

3 Test plan.

6 | S | 1

Which of the following is true of the diagram below?



1	*			
The component Staff planner has a dependency on the component Production scheduler.				
2				
The component Production scheduler has a dependency on the component Staff planner.				
3				
The software component Staff planner runs on the hardware component Production scheduler.				

7	S	1						
Which of the following statements best describes beta testing?								
1	*							
Testing software applications in a live environment.								
2								
Testing individual classes and then the interaction between instances of those classes in programs.								
3								
Testing software applications in a simulated environment.								

8	S	1						
Which of the following statements best describes what is meant by a CASE tool?								
1	*							
A software package that maintains graphical models and other data about systems, and may generate program code.								
2								
A software tool for drawing diagrams.								
3								
A software package that enables a developer to produce a graphical user interface by dragging and dropping components onto forms.								

9	S	1						
Which of the following statements best describes what is meant by a configuration management tool?								
1	*							
A software package that keeps track of the dependencies between components and the versions of source code and resource files used to produce a particular release of software.								
2								
A software package that enables a developer to produce a graphical user interface by dragging and dropping components onto forms.								
3								
A software package that builds archives or zip files that can be used with an installation tool to install software onto a computer.								

10	S	1						
Why should maintenance of an application be controlled?								
1	*							
In order to assess the cost of changes and the impact of changes on the rest of the system.								
2								
To maintain a steady income for the software company that developed the application.								
3								
To avoid maintenance activities interfering with work on developing new systems.								

Questions List

UML :: Chap-20 (3-1)

1 S 1

Jacobson et al. suggest there are six stages that organizations go through in developing a culture of reuse. Which of the following is their list of stages?

1 *
None; informal code reuse; black-box code reuse; managed workproduct reuse; architected reuse; domain-specific reuse-driven organization.

2
Business; user; data; solution; component; repository.

3
Heroic individual reuse; informal code reuse; organized group code reuse; architecture-driven reuse; component-driven reuse; repository-based reuse.

2 S 1

What do Allen and Frost regard as central to their model for the development of reusable code components?

1 *
A repository.

2
Java.

3
The Façade pattern.

3 S 1

Which of the following analogies is used by Allen and Frost?

1 *
Sowing and harvesting reusable components.

2
Hiding reusable components behind a façade.

3
Cloning reusable components from existing systems.

4 S 1

Which of the following is a good definition of a reusable component?

1 *
A type class or other workproduct that has been specifically engineered to be reusable.

2
Anything that appears in a component diagram.

3
A class or abstract superclass designed to be reused through inheritance.

5 S 1

Which of the following is cited as a reason for the failure of object-oriented systems to have achieved the expected levels of reuse?

1 *
Organizations plan for reuse too late. The architecture of a system needs to be designed to support reuse and the organization needs to be structured to support reuse.

2
Reuse does not actually work. There are no systems that are enough like others to benefit from the reuse of components.

3
Reuse only works for languages like C and Fortran in which libraries of reusable functions and procedures can be developed.

6 S 1

Which of the following is not a process in the Select Perpective?

1 *
the repository process.

2
The solution process.

3
The component process.

7 | S | 1

Which of the following is not a standard that helps to support reusable components?

1 *
ORCA (Object Reusable Component Architecture).

2
SOAP (Simple Object Access Protocol).

3
CORBA (Common Object Request Broker Architecture).

8 | S | 1

Which of the following is not an argument for reuse?

1 *
Reusing components allows developers to maintain their high salaries by claiming to have developed software that has in fact been developed by someone else.

2
If some of the requirements of a project can be met by existing components then the time spent developing those components can be saved.

3
If components that have been used and tested in another application can be reused then the time spent testing and quality assuring the components can be saved.

9 | S | 1

Which of the following kinds of organization is likely to benefit from developing a reuse-driven software development process, according to Jacobson et al.?

1 *
Organizations producing hardware products with embedded software.

2
Small software companies producing one-off products.

3
Government departments developing software in-house.

10 | S | 1

Why are classes an inappropriate level at which to try to achieve reuse?

1 *
Attributes and associations of classes often couple them to other classes.

2
Objects not classes are suitable for reuse, as they are the things that are used in real systems.

3
Interfaces rather than classes should be reused, and then classes developed to implement them.

Questions List

UML :: Chap-3 (3-1)

1 S 1

Consider the following statements about CASE tools:
Current CASE tools can perform semantic checks on a set of diagrams modelling an information system.
Current CASE tools can perform syntactic and consistency checks on a set of diagrams modelling information system.
Current CASE tools can perform syntactic checks on a set of diagrams modelling information system.
Which of the following is true?

1 * Statements B and C are true.

2 Statements A, Band C are true.

3 Statements A and C are true.

2 S 1

Iteration is problematic during the traditional life cycle for which of the following reasons?

1 * Ad hoc coding solutions may be used to address changes in requirements

2 Architectural decisions are difficult to change.

3 Requirements will change during the project.

3 S 1

One of the major challenges during system installation is which of the following?

1 * Avoiding unnecessary disruption and minimising the attendant risk of change.

2 Ensuring that the new software is correctly installed to use the computer effectively.

3 Ensuring that both old and new systems run in parallel.

4 S 1

Some of the phases of the Traditional Life Cycle are listed below. Which of the following lists is in the correct sequence for these phases?

1 * System Engineering, Requirements Analysis, Design

2 Construction, Installation and Testing.

3 Requirements Analysis, System Engineering, Design

5 S 1

Some of the tasks in the general problem-solving model are listed below. Which of the following lists these tasks in the correct sequence?

1 * Problem definition, Data gathering, Problem redefinition.

2 Problem definition, Finding solutions, Problem redefinition.

3 Data gathering, Finding solutions, Finding ideas.

6 S 1

User involvement in software development is important for which of the following reasons?

1 * Users can influence the way a project proceeds by identifying the most acceptable course of action from various alternatives.

2 It is cheaper to have users as part of the project team rather than professional software developers.

3 Users understand why the requirements cannot be met.

7 S 1

Which of following describes Strategic Information Systems Planning?

1 * It is concerned with planning information systems development within the context of the organizational strategy.

2 It is concerned with planning the implementation of information systems?

3 It is concerned with how information systems can support strategic planning in an organization?

8 S 1

Which of following is true about software construction in the traditional life cycle?

1 * The design is used to develop program code.

2 Only one programming language could be used.

3 Relational database management systems are not used.

9 S 1

Which of following is true about the criteria for acceptance tests?

1 * They are best identified at the end of requirements analysis.

2 They are best identified at the end of the design phase.

3 They are best identified at the beginning of the testing phase.

10 S 1

Which of the following best describes the term life cycle model?

1 * It describes the phases through which a development project passes from the inception of the idea to completion of the product and its eventual decommissioning.

2 It describes the way requirements for an application change at different stages in the life of the organization.

3 It describes how a computerized information system is used during its lifetime.

11 S 1

Which of the following is a consequence of subdividing the development process?

1 * It allows teams of developers with specialist skills to be allocated to a particular phase.

2 It makes it more difficult to manage a project.

3 It helps identify smaller tasks that can be completely finished.

12 S 1

Which of the following is a disadvantage of the traditional life cycle?

1 * Requirements change during development after the main system requirements have been agreed and are difficult to accommodate.

2 It does not allow the use of object-oriented technology.

3 It separates requirements analysis and design.

13 S 1

Which of the following is a true statement regarding a systems development project?

1 * A systems development project may not involve software development.

2 A systems development project is only concerned with developing a software system.

3 A systems development project is only concerned with developing systems for controlling devices or machines.

14 | S | 1

Which of the following is an example of a systems development methodology?

1 *
The Unified Software Development Process.

2
The traditional life cycle.

3
The Unified Modeling Language.

15 | S | 1

Which of the following is not a workflow in the Unified Software Development Process?

1 *
Construction

2
Implementation

3
Test

16 | S | 1

Which of the following is not an advantage of prototyping?

1 *
Prototyping requires no analysis or design.

2
Prototyping is easy to manage.

3
Prototypes may be used to reduce misunderstandings about requirements.

17 | S | 1

Which of the following is true about system requirements?

1 *
They can be used to develop user acceptance tests.

2
They are mainly identified during systems engineering.

3
They change from one phase to another.

18 | S | 1

Which of the following statements is true about a prototype system?

1 *
A prototype system is incomplete or lacks the resilient construction of the final production system.

2
A prototype system is always discarded before the final production system is built.

3
Rapid development tools are only used to build prototype systems.

19 | S | 1

Which of the following statements is true about adaptive maintenance?

1 *
It is concerned with changing the system when requirements change.

2
It is concerned with ensuring the system data is adapted to suit changes in the organization.

3
It is concerned with maintaining the system so that it can adapt automatically to changes in the organization.

Questions List

UML :: Chap-4 (3-1)

1 S 1
How does generalization differ from inheritance?
1 *
Inheritance is a mechanism by which some OO languages implement generalization.
2
It doesn't - they are the same thing.
3
With generalization each class has only one superclass, whereas with inheritance each class has two or more superclasses.

2 S 1
What do all objects have?
1 *
State, behaviour and identity.
2
Behaviour, data and identity.
3
Instances, structure and similarity.

3 S 1
What is a message protocol or signature?
1 *
A message protocol is the interface to an operation.
2
A message protocol is a valid sequence of keystrokes by a user.
3
A message protocol is a valid sequence of operations in a series of different objects.

4 S 1
What is generalization?
1 *
A kind of relationship between a more general element and a more specific element.
2
A process of broadening the scope of an object, such that it becomes more generally useful.
3
A process of collecting together objects into their respective classes.

5 S 1
What is meant by 'transitive operation' in the context of generalization and inheritance?
1 *
A subclass inherits characteristics from all its superclasses at all levels.
2
An operation in a superclass may be overwritten by a different operation in a subclass.
3
An operation in a superclass may not be overwritten by a different operation in a subclass.

6 S 1
What is meant by multiple inheritance?
1 *
Multiple inheritance signifies that a class simultaneously belongs to more than one generalization hierarchy.
2
Multiple inheritance signifies that a class has more than one superclass.
3
Multiple inheritance signifies that a class can have different superclasses at different times.

7 S 1
What is the significance of message-passing in an OO system?
1 *
Objects exchange messages in order to communicate with each other.

2	Messages represent input from users that tells the software system what to do.
3	Messages represent output to users that show the results of processing.

8 S 1

Which of the following best describes a type?

1 *	A description of a set of objects with similar behaviours.
2	A superclass in a generalization hierarchy.
3	A class with a characteristic that distinguishes it from all other classes.

9 S 1

Which of the following best describes abstraction?

1 *	A representation that contains only relevant details.
2	A representation of something tangible.
3	A representation that can be stored in a software system.

10 S 1

Which of the following best describes an object?

1 *	A concept, abstraction or thing in an application domain.
2	Part of a software system that is entirely unique.
3	A program that represents something tangible in the problem domain.

11 S 1

Which of the following best describes an object's interface?

1 *	The complete set of signatures for all the object's operations.
2	The view that an object presents to users of the system.
3	The links that an object has with other objects.

12 S 1

Which of the following best describes encapsulation?

1 *	Data within an object can only be accessed by passing a valid message to one of its own operations.
2	The implementation of an object can only be changed by its original programmer.
3	Data within an object can only be accessed by passing a valid message to its class.

13 S 1

Which of the following best describes object behaviour?

1 *	What the object is able to do for other objects.
2	What the object is able to do to other objects.
3	What the object is able to do to itself.

14 S 1

Which of the following best describes object state?

1 *	The particular condition that an object is in at a given moment, determining its possible behaviours.
2	

Which class the object belongs to.

3

The semantics of the object.

15 S 1

Which of the following best describes polymorphism?

1 *

The capacity of different objects to respond to a similar message in appropriate but different ways.

2

The capacity of an object to behave in different ways at different times according to its current state.

3

The capacity of an object to send different messages to different objects according to their class.

16 S 1

Which of the following best describes the relationship between an object and its class?

1 *

The structure and permitted behaviours of an object are defined by its class.

2

A class is a container that holds a collection of similar objects.

3

An object is an implementation of a class.

17 S 1

Which of the following is a useful set of questions to ask when modelling an object, according to Rebecca Wirfs-Brock?

1 *

Who am I, what can I do and what do I know?

2

Where am I, what am I and who do I know?

3

What do I have, what can I get and what can I do?

18 S 1

Which of the following is a valid reason why it is difficult to design event-driven software in a procedural manner?

1 *

It is difficult to anticipate and design for all possible sequences of use.

2

Procedurally designed programs are not capable of responding quickly to events.

3

Procedural programs are only suitable for record-based data structures.

19 S 1

Which of the following is not a characteristic of a subclass?

1 *

A subclass can only have superclasses, it cannot have subclasses of its own.

2

A subclass inherits all the characteristics of its superclass.

3

A subclass includes at least one detail that is not shared by its superclass.

20 S 1

Which of the following is not a description of a class?

1 *

A set of objects that collaborate together to achieve some common objective.

2

A set of objects that share the same behaviour, attributes, relationships and semantics.

3

An abstract descriptor for a set of instances with certain logical similarities to each other.

21 S 1

Which of the following is not a reason for modeling objects?

1 *

To separate data from process.

2

To produce a design for part of a software system.

	3							
		To understand an aspect of the application domain.						

22	S	1						
	Which of the following is not an advantage of modular software design?							
	1	*						
		Modular systems are independent of the operating system that they run on.						
	2							
		Modular systems are typically more reliable in use.						
	3							
		Modular systems can be implemented in small, manageable chunks.						

23	S	1						
	Which of the following is not an advantage of using generalization?							
	1	*						
		Generalization helps to encapsulate classes and subsystems so that their implementation is hidden from other parts of the system.						
	2							
		Generalization helps to organize a model so that the degree of similarity between classes is made more explicit.						
	3							
		A generalization hierarchy is easy to extend to fit a changing picture.						

Questions List

UML :: Chap-6 (3-1)

1 S 1

In which of the following circumstances is it not appropriate to use questionnaires?

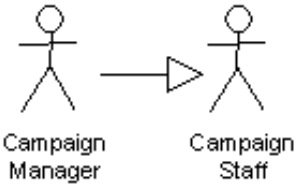
1 * There is a need to check how people actually carry out their work.

2 The views and knowledge of a large number of people must be obtained.

3 The people who work for the organization are geographically dispersed.

2 S 1

What is shown in the following diagram?



1 * An inheritance relationship between two actors.

2 A data flow from one actor to another.

3 An Extend dependency between two actors.

3 S 1

Which fact-finding technique is most suitable to be used in the initial stages of fact-finding and particularly where the analyst is not familiar with the organization that is being studied?

1 * Background reading.

2 Interviewing.

3 Questionnaires.

4 S 1

Which of the following categories of people are not likely to be involved in a steering committee?

1 * System testers.

2 Senior managers.

3 Representatives of users.

5 S 1

Which of the following describes a non-functional requirement?

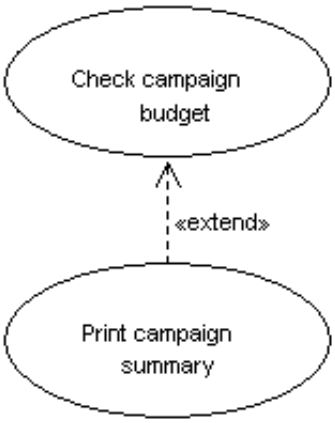
1 * The system must be capable of holding 500Mb of data initially, growing by 100Mb per year.

2 The system must produce a report of all advertising campaigns for a particular client.

3 The system must allow users to enter details of clients.

6 S 1

Which of the following describes the figure below?


Check campaign budget
«extend»
Print campaign summary

1	*			
	Print campaign summary extends Check campaign budget.			
2				
	Check campaign budget extends Print campaign summary.			
3				
	Check campaign budget includes Print campaign summary.			

7	S	1						

Which of the following does the figure below show?

1	*			
	An actor.			
2				
	A use case.			
3				
	A user.			

8	S	1						

Which of the following does the figure below show?

1	*			
	A use case			
2				
	An actor.			
3				
	An activity			

9	S	1						

Which of the following is a valid reason for using interviewing as a fact-finding technique?

1	*			
	The interviewer can respond flexibly to the interviewee's responses.			
2				
	The interviewer can gather statistical data about documents.			
3				
	Interviews take very little time.			

10	S	1						

Which of the following is not a purpose for using use cases?

1	*			
	To describe the logic of operations.			
2				
	To document the scope of the system.			
3				
	To provide a high-level view of system functionality from the users' perspective.			

11	S	1						

Which of the following is not a reason for analysing the current system (if it exists)?

1	*			
	The analyst must not lose sight of his or her objectives.			
2				
	The analyst needs to know about problems with and defects in the current system.			
3				
	Much of the functionality of the existing system will be required in the new system.			

12 | S | 1

Which of the following is not a reason for using prototyping during use case development?

1 *
To get the user interface development started before the class diagramming is begun.

2
To clarify requirements.

3
To test the architecture of architecturally significant use cases.

13 | S | 1

Which of the following is not an example of a functional requirement?

1 *
The system must allow users to enter details of advertising campaigns.

2
The system must be capable of responding to all queries within 5 seconds.

3
Users of the system will make 50% fewer errors than with the existing system.

14 | S | 1

Which of the following is not the kind of information gathered to understand usability requirements?

1 *
The volume of data in the existing system.

2
The characteristics of the users of the system.

3
The context in which the system will be used.

15 | S | 1

Which of the following is the best definition of an actor?

1 *
An actor represents a role played by a user of the system or by an external system.

2
An actor represents a user of the system.

3
An actor represents a role played by a user of the system.

16 | S | 1

Which of the following is the correct name for the symbols placed round stereotyped names such as «extend»?

1 *
Guillemets.

2
Guillemots.

3
Parakeets.

17 | S | 1

Which of the following is true?

1 *
An Extend relationship means that the functionality of one use case optionally extends the functionality of another at a particular point or points in its execution.

2
An Extend relationship means that the functionality of one use case always extends the functionality of another at a particular point or points in its execution.

3
An Extend relationship means that the functionality of one use case inherits the functionality of another at a particular point or points in its execution.

18 | S | 1

Which of the following lists only contains systems analysis fact-finding techniques?

1 *
Sampling, questionnaires, interviewing, reading and observation.

2
Use case modelling, interviewing, class diagramming, observation and knowledge acquisition.

3

Sampling, background reading, interviewing, use case modelling and activity diagramming.

19 S 1

Which of the following statements is true?

1 *

Actors are linked to use cases by communication associations.

2

Actors are linked to use cases by inheritance.

3

Actors are linked to use cases by «uses» dependencies.

20 S 1

Which of the followings is true?

1 *

An Include dependency means that the functionality of one use case always includes the functionality of another at a particular point or points in its execution.

2

An Include dependency means that the functionality of one use case optionally includes the functionality of another at a particular point or points in its execution.

3

An Include dependency means that the functionality of one use case inherits the functionality of another at a particular point or points in its execution.

Questions List

UML :: Chap-7 (3-1)

1 S 1

How do operations differ from methods?

1 *
A method is a particular implementation of an operation.

2
An operation is a particular implementation of a method.

3
Some object-oriented programming languages have methods, while others have operations.

2 S 1

One of the following cannot directly affect the state of an object. Which one?

1 *
The creation or destruction of another object of the same class.

2
A change in the value of one of its attributes.

3
The creation or destruction of a link with another object.

3 S 1

One of the following is a bad guideline for deciding the class where an operation should be located. Which one?

1 *
The operation needs to access or update data that is stored in another class that has an association with that class.

2
The operation represents a service that objects of that class should provide to objects of other classes.

3
The operation needs to access or update data that is stored in an attribute of that class.

4 S 1

One of the following is not a difference between a class diagram and a communication diagram. Which one?

1 *
A class diagram shows the names of the classes, while the communication ignores these.

2
A communication diagram shows object interaction, while a class diagram ignores this.

3
A class diagram shows more of the structural details than the communication diagram.

5 S 1

One of the following is not an advantage of stereotyping analysis classes. Which one?

1 *
Once a class is stereotyped, its behaviour is likely to become more predictable.

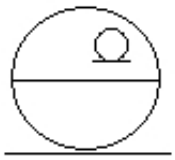
2
The resulting packages can form a basis for the system's architecture.

3
It can be useful to differentiate classes that have broad similarities in the way that they behave.

6 S 1

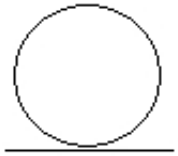
One of these is not a permitted symbol for an entity class. Which one?

1 *



2

3				



7 | S | 1

What are entity classes?

1 *
Classes that represent something or some concept in the application domain.

2
Classes that contain data.

3
Classes that contain persistent data.

8 | S | 1

What do boundary classes represent?

1 *
Interfaces between the system and its actors.

2
Customers and suppliers of the business.

3
People who will use the system.

9 | S | 1

What do control classes represent?

1 *
The calculation and scheduling aspects of the logic of the use case.

2
Classes that interact with the users of the system.

3
Classes that control the storage of persistent data.

10 | S | 1

What is a domain class model?

1 *
An analysis class model that is independent of any particular use cases.

2
A class model that does not include either boundary or control classes.

3
A class model that has been implemented in a particular domain.

11 | S | 1

What is the difference between a link and an association?

1 *
A link connects two instances, while an association connects two classes.

2
A link is a transient association.

3
A link is an association between two entity classes.

12 | S | 1

What is the significance of the double colon in the class name: User Interface::AddAdvertUI?

1 *
The class called AddAdvertUI is in the package called User Interface.

2
User Interface is the stereotype of a class called AddAdvertUI.

3
User Interface and AddAdvertUI are two alternative names for the same class.

13 | S | 1

What is the significance of the multiplicity of an association?

1 *
It constrains the number of objects of one participating class that can be linked to an object of the other class.

2
It denotes the number of different classes that can be linked together.

3
It constrains the number of times that an object of one participating class can be linked during its lifetime.

14 | S | 1

When do we not need to represent the whole system as a class in the analysis model?

1 *
When the system does not need to encapsulate data or behaviour that applies only to the system as a whole.

2
When the users have not stated that this is a requirement.

3
When the system does not need to interact directly with other systems.

15 S 1

Which is the correct name for “a possible set of classes, together with an understanding of how those classes might interact to deliver the functionality of a use case”?

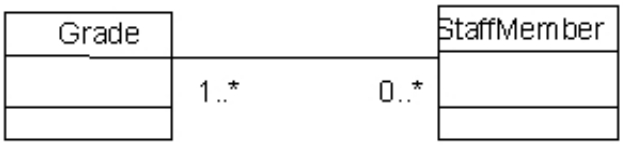
1 *
A collaboration.

2
A use case class diagram.

3
A realization.

16 S 1

Which of the following answers is the correct interpretation of the association multiplicities shown on this diagram?



1 *
A grade need not be associated with any staff members, or it can be associated with an indeterminate number of staff members; a staff member must be associated with one or more grades.

2
A staff member need not be associated with any grades, or it can be associated with an indeterminate number of grades; a grade must be associated with one or more staff members.

3
A grade cannot be associated with a staff member but a staff member can be associated with a grade.

17 S 1

Which of the following is not a good reason for constructing a requirements model?

1 *
It can demonstrate that all the use cases have been drawn using the correct notation.

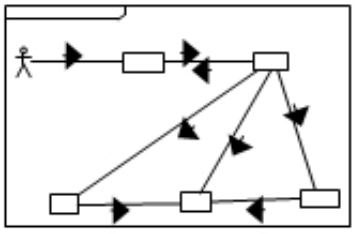
2
It can show the business situation in enough detail to check that the requirements have been captured fully and correctly.

3
It can be organized in such a way that it will be useful later for designing the software.

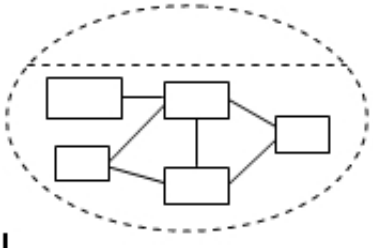
18 S 1

Which of these figures is a communication diagram?

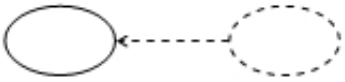
1 *



2



3



19	S	1					

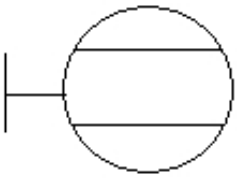
Which of these is the correct set of USDP analysis class stereotypes?

1	*	Boundary, control and entity.
2		Interface, control and entity.
3		Interface, sequence and entity.

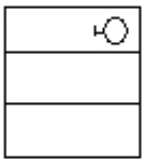
20 S 1

Which one of these is not a permitted symbol for a boundary class?

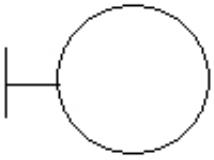
1 *



2



3



Questions List

UML :: Chap-8 (3-1)

1 | S | 1

How do abstract and concrete classes differ from each other?

1 * Abstract classes have no instances, whereas concrete classes have instances.

2 Abstract classes represent intangible concepts in the application domain, whereas concrete classes represent physical things.

3 Abstract classes are superclasses, whereas concrete classes are subclasses.

2 | S | 1

How does composition support software reuse?

1 * Composite structures encapsulate their sub-components, making it easy to treat the composite as a single whole.

2 A composite structure is capable of performing more than one task, and thus it is useful in more than one context.

3 Composition structures are easy to extend with minimal effort.

3 | S | 1

How does generalization increase the opportunities for software reuse?

1 * A generalization hierarchy can be extended to include new subclasses with minimal effort.

2 Generalization aids the encapsulation of software components.

3 Generalization allows a group of software components to be treated as a single whole.

4 | S | 1

One of the following is not a reason why object-oriented approaches support software reuse. Which one?

1 * Object-oriented development encourages developers to share ideas with developers in other teams.

2 Object-oriented development encourages the encapsulation of the internal details of components.

3 Object-oriented models are organized in a way that makes it easier to find suitable components.

5 | S | 1

What does it mean to say that an operation has been redefined?

1 * The definition of the operation in a subclass overrides the superclass definition of the same operation.

2 The definition of the operation has been changed because users have changed their minds about the requirements.

3 The method that implements the operation does not follow the original definition of the operation.

6 | S | 1

What is meant by the NIH syndrome?

1 * Some software developers are not inclined to trust software that was written elsewhere.

2 Some project managers are not inclined to trust programmers who were trained elsewhere.

3 Many users are not inclined to trust software that was written elsewhere.

7 | S | 1

What is the role of encapsulation in reuse?

1 * Encapsulation means that it is not necessary for other developers to know how a software component works internally.

2	Encapsulation means that software components can work more efficiently.
3	Encapsulation means that there is no need for software developers to document their work.

8 S 1

Which of the following best describes composition?

1 *	A relationship between a whole and its parts.
2	A package of model elements.
3	A set of realizations for a single use case.

9 S 1

Which of the following best describes how composition differs from aggregation?

1 *	A part can belong to only one composition, whereas a part can belong to more than one aggregation.
2	A part cannot be removed from a composition, whereas a part can be removed from an aggregation.
3	A part that belongs to a composition cannot have associations with any other classes, whereas a part that belongs to an aggregation can have associations with other classes.

10 S 1

Which of the following best describes multiple inheritance?

1 *	Multiple inheritance occurs when a subclass inherits from more than one generalization hierarchy.
2	Multiple inheritance occurs when a subclass is removed from one generalization hierarchy and added to another.
3	Multiple inheritance occurs when a subclass inherits characteristics from more than one level of superclass.

11 S 1

Which of the following best describes the advantages of using software components, assuming that suitable components are available?

1 *	The project is more likely to be completed in less time and at a lower cost.
2	The users are more likely to get what they want.
3	The software is more likely to be capable of running on different hardware platforms.

12 S 1

Which of the following is the best description of a software development pattern?

1 *	The core of a solution to a software development problem that occurs over and over again.
2	The way that a particular software developer tends to solve problems.
3	A particular approach to software development, such as the object-oriented approach or the structured approach.

Questions List

UML :: Chap-9 (3-1)

1 S 1

An interaction diagram should be consistent with the associated class diagram in various ways. Which of the following statements is true?

1 *
The sending object must have the object reference of the receiving object before sending a message to that object.

2
It is always correct to show a message between two objects if there is an association between their classes.

3
A message should not be shown between two objects if there is no association between their classes.

2 S 1

An interaction sequence diagram drawn during analysis differs from one drawn during design in which of the following ways?

1 *
The former normally does not include design objects or detailed specifications of message signatures.

2
The former normally does not include boundary objects.

3
The former normally does not include control objects.

3 S 1

Communication diagrams differ from interaction sequence diagrams in the following way?

1 *
Communication diagrams show the links between the objects.

2
Communication diagrams cannot show the design detail that can be shown on a sequence diagram.

3
Communication diagrams only show the collaboration and not the sequence of the messages.

4 S 1

In a communication diagram one message has the sequence number 5.1.1. Which of the following sequence numbers indicates the message that must be the immediate successor?

1 *
A message with the sequence number 5.1.1.1.

2
A message with the sequence number 5.1.2.

3
A message with the sequence number 5.2.1.

5 S 1

Interaction sequence diagrams should be consistent with other diagrams and models that relate to the same group of objects or subsystems. Which of the following statements is true?

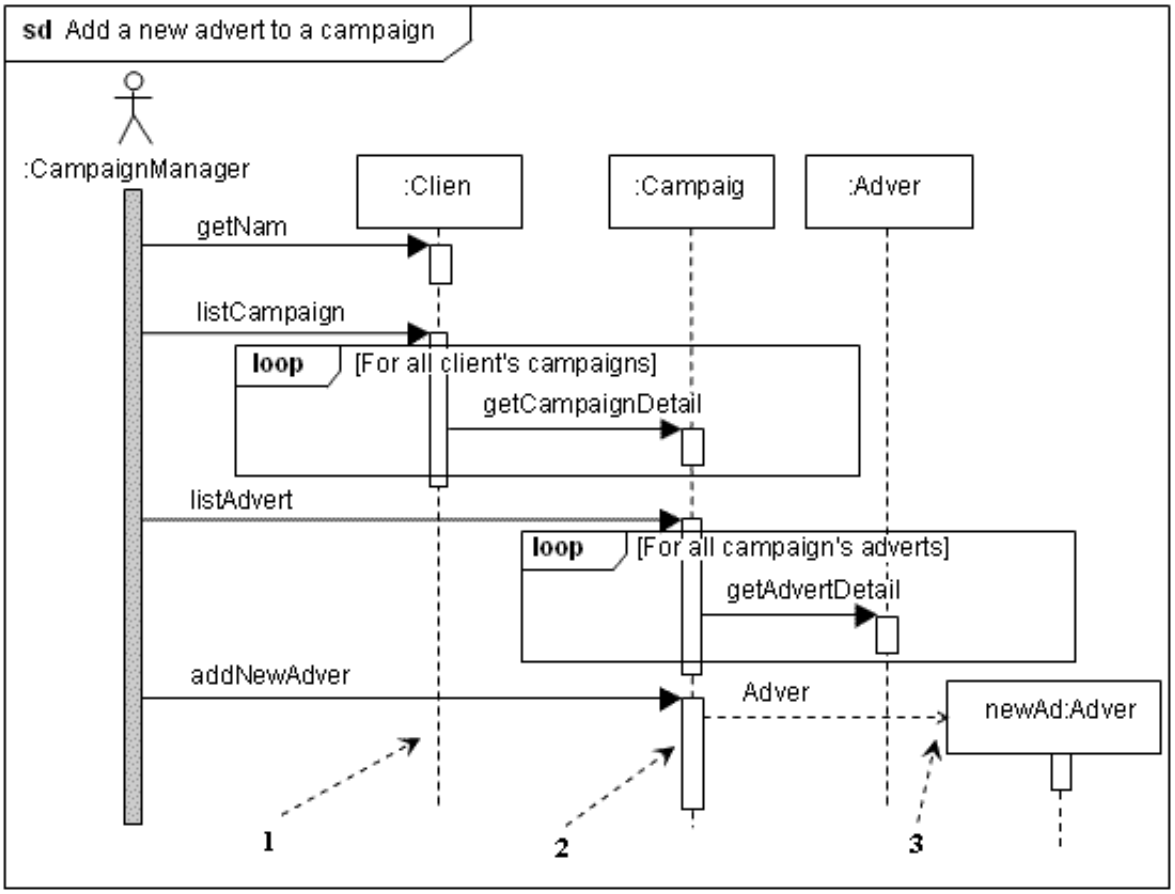
1 *
A sequence diagram must be consistent all other diagrams or models that include or relate to the lifelines in the sequence diagram.

2
A sequence diagram must show all the messages that are consistent with the state machines for each of the lifelines in the sequence diagram and be consistent with the class diagram.

3
A sequence diagram must be consistent with the class diagram or with the state machines for lifelines in the sequence diagram.

6 S 1

On the following figure which of the symbols labelled 1, 2 or 3 represents an activation on a sequence diagram?



1	*			
	Symbol 2			
2				
	Symbol 1			
3				
	Symbol 3			

7 | S | 1

Timing diagrams are used to show how timing constraints affect interactions between lifelines. Which of the following statements is true?

1 *
When a state change is being modelled that takes significant (from the application's perspective) time it is shown by a slanting line.

2
A lifeline may only have two alternative states.

3
Messages are not shown on timing diagrams.

8 | S | 1

What is meant by the term 'thread of control' in the context of concurrent behaviour?

1 *
A thread of control is an execution pathway that may occur simultaneously with other execution pathways.

2
A thread of control is a weak part of the control system.

3
A thread of control is the mechanism that controls concurrent behaviour.

9 | S | 1

What is meant by the term collaboration in context of interaction modeling?

1 *
A collaboration describes the structure and links between a group of instances playing roles in a behaviour.

2
A collaboration describes the messages between objects.

3
A collaboration describes objects that share functionality.

10 | S | 1

What is meant by the term interaction?

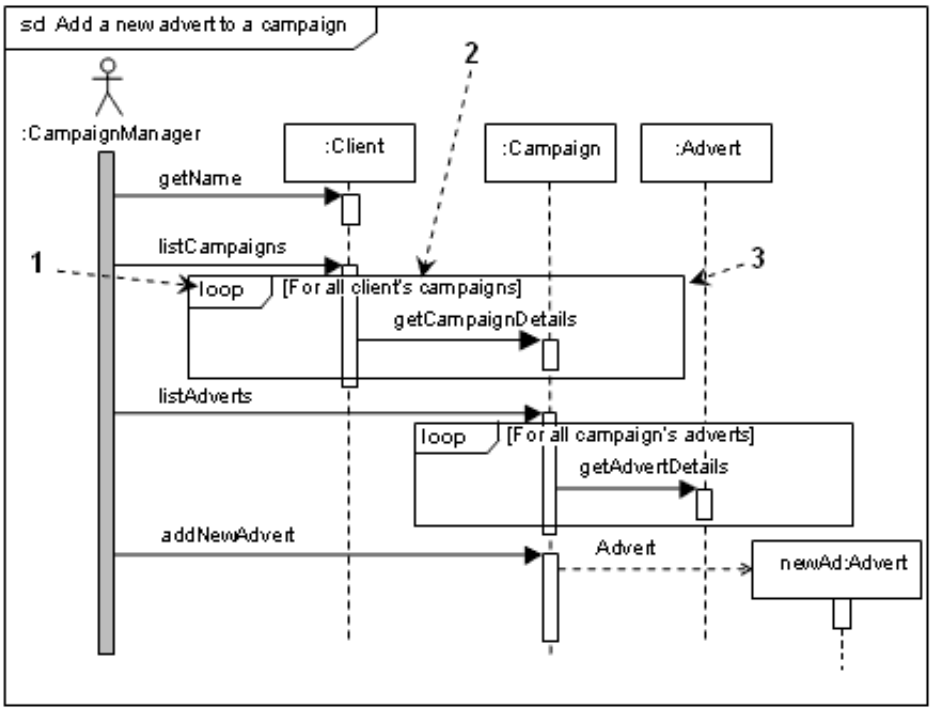
1 *
An interaction defines the message passing between lifelines (e.g. objects) within the context of a collaboration to achieve a particular behaviour.

2
An interaction describes any communication between two lifelines.

3
An interaction describes a group of lifelines that share functionality.

11 | S | 1

Which of the arrows labelled 1, 2 or 3 is pointing to an interaction constraint?



1	*			
	Arrow 2			
2				
	Arrow 1			
3				
	Arrow 3			

12	S	1						
	Which of the following accurately describes an asynchronous message?							
	1	*						
	An asynchronous message does not cause the invoking operation to halt execution while it awaits the return of control.							
	2							
	An asynchronous message has the same effect as a blocking call.							
	3							
	An asynchronous message is a reply to a synchronous message.							

13	S	1						
	Which of the following is a disadvantage of communication diagrams?							
	1	*						
	A communication diagram is difficult to read if there are many messages between two objects.							
	2							
	A communication diagram can only be used during analysis.							
	3							
	A communication diagram cannot include guard conditions.							

14	S	1						
	Which of the following is an appropriate way of hiding complex behaviour in an interaction sequence diagram?							
	1	*						
	A group of objects and their interactions can be represented by a single lifeline which references an interaction fragment.							
	2							
	Some messages are omitted to reduce the complexity.							
	3							
	Some objects are omitted from the diagram to reduce the complexity.							

15	S	1						
	Which of the following is an appropriate way of modelling a part of an interaction that appears in several other interactions?							
	1	*						
	Model the common part of the interaction as an interaction fragment in a separate sequence diagram.							
	2							
	Model the common part of the interaction as an ‘alt’ combined fragment.							
	3							
	Model the common part of the interaction using a communication diagram.							

16	S	1						
	Which of the following is true about boundary objects?							
	1	*						
	The identification and specification of boundary objects is considered in both analysis and design but in different ways.							
	2							
	The identification and specification of boundary objects is purely a design activity.							
	3							
	The identification and detailed specification of boundary objects is part of requirements specification.							

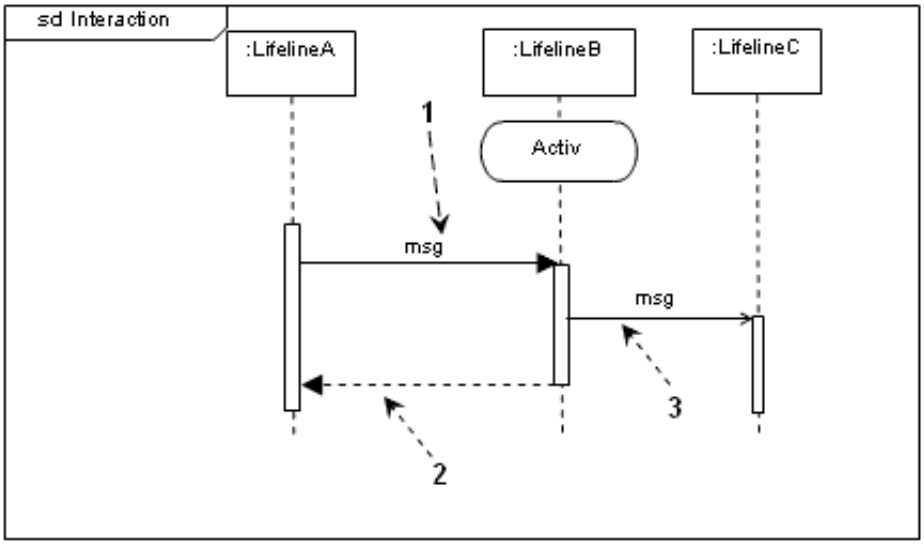
17	S	1						
	Which of the following is true?							
	1	*						
	Message passing is a metaphor used to describe object interaction.							
	2							
	Identifying what messages are passed between objects is a straightforward process.							
	3							
	Message passing is only concerned with query operations.							

18	S	1						
	Which of the following statements about sequence diagrams is true?							
	1	*						

			A sequence diagram containing an interaction fragment may be referenced by one or more sequence diagrams.					
	2							
			A sequence diagram containing an interaction fragment may be referenced by only one sequence diagram.					
	3							
			A sequence diagram containing an interaction fragment may never be referenced by another sequence diagram.					

19	S	1						
			Which of the following statements is correct about interaction overview diagrams?					
	1	*						
			An interaction overview diagram may include in-line sequence diagrams.					
	2							
			An interaction overview diagram may not have decision nodes.					
	3							
			An interaction overview diagram may only have interaction occurrences, initial pseudostates and final pseudostates as nodes in the diagram.					

20	S	1						
			Which of the labelled symbols in the following diagram represents a synchronous message?					



	1	*						
			Symbol 1					
	2							
			Symbol 2					
	3							
			Symbol 3					