Midterm

Started: Mar 21 at 12:54pm

Quiz Instructions

This is a timed test. You will have 120 minutes to complete the test once you begin.

You may not leave and return.

Answer all questions on the test.

In a seated exam, I normally allow for a selection of questions. As this is not possible for this online exam, **I will be giving points for up to two questions you may have answered incorrectly**, so if any particular question is confusing, answer it as best as possible.

Good luck!

Question 1 — 3 pts

In the world of software development, workflows and phases are the same things?

- ○ True
- ◉ False

Question 2 — 3 pts

In software engineering, iteration and incrementation are the same things?

- ○ True
- ◉ False

Question 3 — 3 pts

This is a way of determining whether a possible course of action by comparing future benefits against projected costs?

- ○ using non-executing based testing
- ○ using case tools
- ◉ cost-benefit analysis
- ○ none of the above

Question 4

3 pts

From the perspective of user interface development, what can be said about an affordance?

- ○ The completion times for a typical task.
- ◉ An action a user sees possible without training
- ○ The costs of buying user interface components.

Question 5

3 pts

It is not important to understand how the application is going to be used, we simply need to know what the customer wants.

- ○ True
- ◉ False

Question 6

3 pts

Rapid prototyping beneficial for eliciting requirements?

- [x] True
- [ ] False

Question 7

3 pts

Petri nets and state machines are basically exactly the same but with slightly different diagram formats. Neither has an advantage over the other, for example, when modeling concurrency.

- [ ] True
- [x] False

Question 8

3 pts

Data flow diagrams are old fashioned and have no current value?

- [ ] True
- [x] False

Question 9

3 pts

Is it legal to go from process to process in a data flow diagram?

- [ ] True
- [x] False

Question 10

3 pts

This class models data that is long-lived. (when considering entity, boundary, control)

- boundary
- control
- view
- entity

Question 11

3 pts

When doing noun extraction, which of the following is true?

- both the nouns and verbs are candidate classes
- both the nouns and verbs are candidate methods
- The nouns are candidate classes, the verbs are candidate methods
- The nouns are candidate methods, the verbs are candidate classes

Question 12

3 pts

This class models the interaction between the software and its actors, and are associated with input and output. (when considering entity, boundary, control)

- boundary
- model
- entity
- control

Question 13

3 pts

The term for the object-oriented concept of bundling methods and data together into a package called a class is called: (best answer)

- ○ data hiding
- ○ none of the presented answers are correct
- ◉ encapsulation
- ○ abstraction

Question 14

3 pts

A subclass can inherit which of the following from its parent?

- ○ name only
- ○ attributes and methods
- ◉ attributes only
- ○ methods only

Question 15

3 pts

A subclass cannot override methods of a parent class?

- ◉ True
- ○ False

Question 16

3 pts

Which are variations of path coverage? (more than one answser)

- [x] all-definition-use coverage
- [x] statement coverage
- [ ] buffer evaluation
- [ ] linear code sequences

Question 17

3 pts

Which form of testing happens each time a new module is merged into a system being built?

- ( ) Product Testing
- ( ) none of the choices are valid
- ( ) Acceptance Testing
- (•) Integration Testing

Question 18

3 pts

Using this integration method, modules that are "logic artifacts" and for SEIS-610 considered "user-facing" are integrated first.

- ( ) top-down integration
- ( ) bottom-up integration
- ( ) neither bottom nor top down integration
- ( ) both top-down and bottom up integration

Question 19

3 pts

If I have a collection of data. Operations on 1 item take 1 second. Operations on 2 items take 2 seconds. Operations on 3 items take 3 seconds. Operations of 4 items take 4 seconds. This is BigO --

- O(constant)
- O(linear)
- O(quadratic)
- O(logarithmic)

Question 20

3 pts

I have a collection of data. Operations on 1 item take 1 second. Operations on 2 items take 4 seconds. Operations on 3 items take 9 seconds. Operations o 4 items take 16 seconds. Operations on 5 items take 25 seconds. This is classified as BigO..

- O(quadratic)
- O(logarithmic)
- O(linear)
- O(constant)

Question 21

3 pts

A binary search, when properly implemented, operates in:

- quadratic time
- logarithmic time
- constant time

- linear time

Question 22

3 pts

The primary activity during construction is writing code, but other workflows are allowed.

- True
- False

Question 23

3 pts

"We have no experience with encryption and the project requires encryption or cannot continue." This statement should be primarily addressed in which part of the inception document? (it may be addressed in multiple sections, but this is the most important one)

- user stories
- development risks
- glossary
- business case

Question 24

3 pts

We have decided what we are not going to include in the project. These items should be made obvious in what part of the inception document?

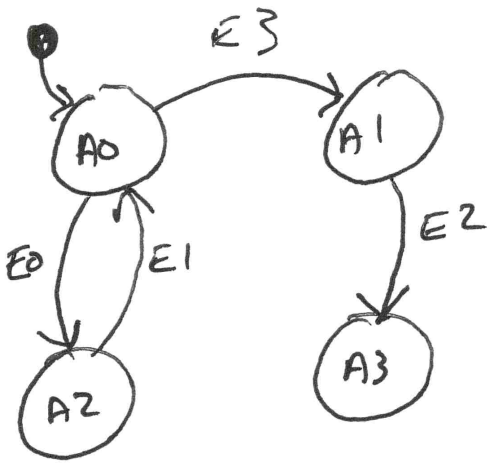
- Non-functional requirements
- Project Boundaries
- Project Vision

development risks

Question 25

3 pts

Which sequence of events would bring you into each of the states at least once?



E1, E3, E2, E1

E1, E2, E3, E1

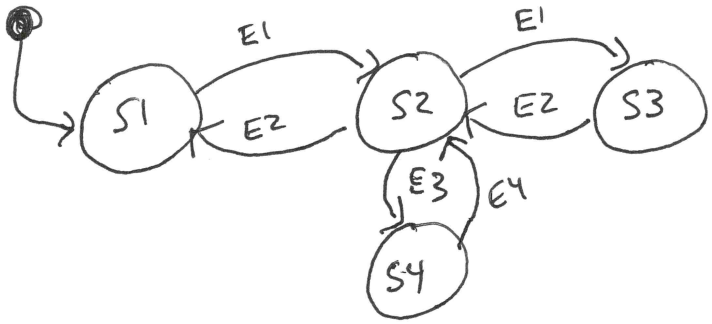
E0, E1, E3, E2

E3, E2, E0, E1

Question 26

3 pts

Which sequence of events would bring you into each of the states at least once?



- E1, E1, E2, E3, E4, E2
- E1, E2, E1, E2, E3, E4
- E1, E3, E4, E2
- E1, E2, E3 , E4

Question 27

3 pts

Consider a sorted collection of nodes, with ids: 1,2,4,6,9,10,23,61

If I am BINARY searching for the node with an id of 2, which nodes will be examined in the process? (more than one selection)

- [ ] 10
- [ ] 4
- [ ] 6
- [ ] 61
- [ ] 9
- [ ] 23
- [ ] 2
- [ ] 1

Question 28

3 pts

Assuming that the hash function for a table works well, the best hash function ever invented, and the size of the hash table is reasonably large compared to the number of items in the table, the expected (average) time needed to find an item in a hash table containing n items is

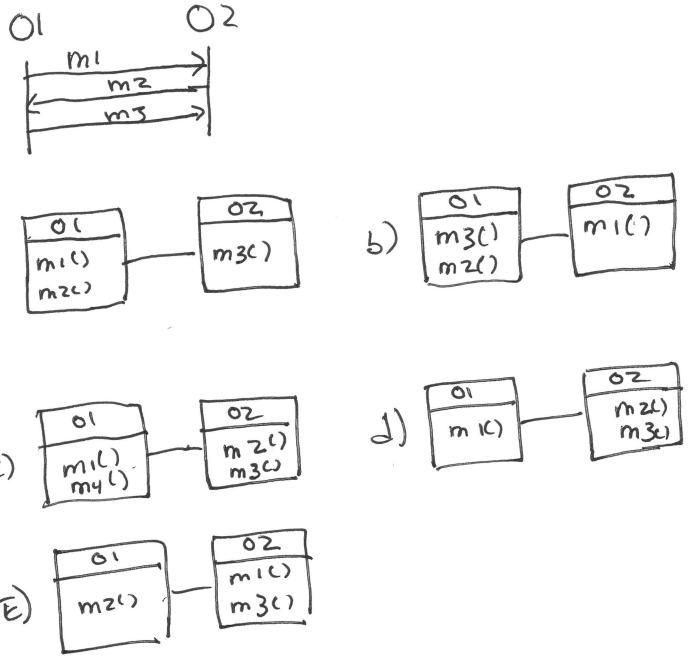
- constant
- linear
- logarithmic
- quadratic

Question 29

3 pts

Look at the Sequence diagram below, and the class diagrams identified by a, b, c, d, and e.

Which class diagram most closely represents the Sequence diagram?

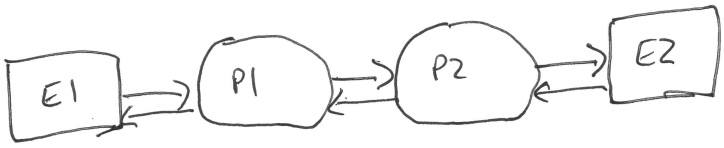


- none of the class diagrams is correct
- diagram d
- diagram b
- diagram e
- diagram a
- diagram c

Question 30

3 pts

This is a valid DFD?

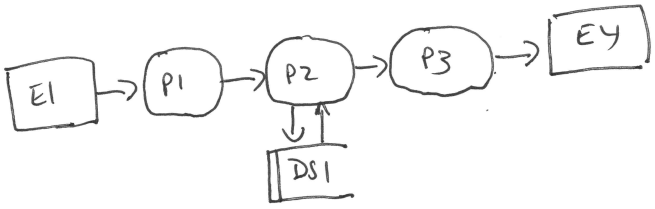


- True
- False

Question 31

3 pts

This is a valid DFD?



- True
- False

Question 32

3 pts

Here is a collection of numbers from the first past of an unnamed sort.

0,33,11,44,22

Describe which sort could have left these numbers in this order **and why.** (No more than 2 sentences)

HTML Editor

12pt Paragraph

0 words

Question 33

3 pts

Here is a collection of numbers from the first past of an unnamed sort.

5,4,8,13,11

Describe which sort could have left these numbers in this order **and why.** (No more than 2 sentences)

HTML Editor

0 words

Question 34

1 pts

What is the last name of the author of our textbook??

Saving...

Submit Quiz