Architecture2 Quiz

Due Oct 17 at 11:59pm   **Points** 25   **Questions** 25   **Time Limit** 60 Minutes

Instructions

This quiz assesses your understanding of software architecture documentation. The time to complete this quiz is 6**0 minutes**.

By taking this quiz, you are also taking the pledge of honor:

"*I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination.*"

Attempt History

	Attempt	**Time**	**Score**
LATEST	**Attempt 1**	56 minutes	23.42 out of 25

Score for this quiz: **23.42** out of 25
Submitted Oct 13 at 2:44pm
This attempt took 56 minutes.

Question 1   1 / 1 pts

I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination.

Correct!

- ● True

- ○ False

Question 2   1 / 1 pts

Which of the following elements need to be documented in software architecture specification? *(check all that apply)*

Correct!   ☑ Decomposition into architectural elements

Correct!   ☑ Elements responsibilities

Correct!   ☑ Interfaces

Correct!   ☑ Collaborations

Correct!   ☑ Relationships

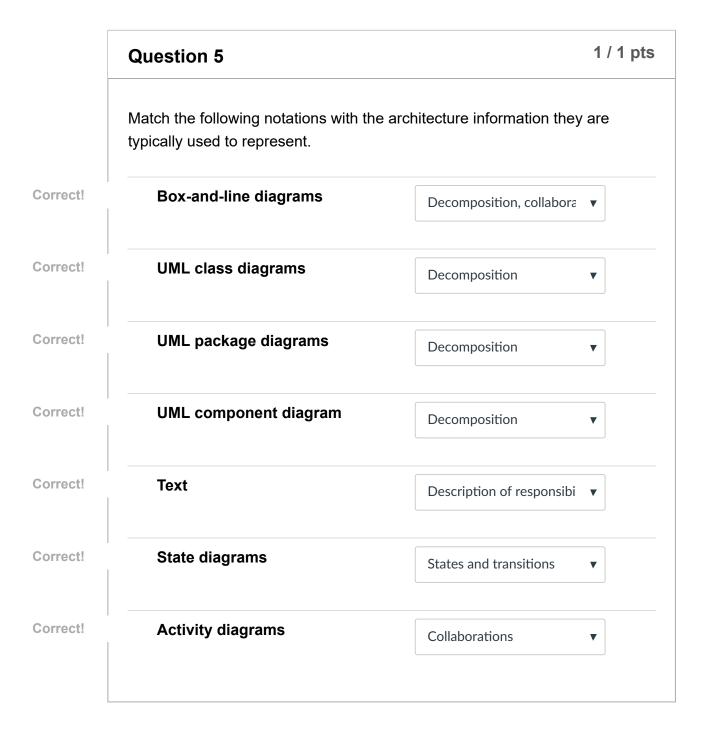☐ Algorithms

Correct!   ☑ States and Transitions

Question 3   0.75 / 1 pts

What relations between architecture elements are documented in software architecture specification? *(check all that apply)*

Correct!   ☑ Dependencies

Correct!   ☑ Uses

Correct!   ☑ Decomposition

orrect Answer   ☐ Generalization

Question 4   1 / 1 pts

An interface is a boundary across which entities communicate

Correct!

    ⦿ True

    ◯ False

Question 5   1 / 1 pts

Match the following notations with the architecture information they are typically used to represent.

Correct!

Box-and-line diagrams

Decomposition, collabora ▼

Correct!

UML class diagrams

Decomposition ▼

Correct!

UML package diagrams

Decomposition ▼

Correct!

UML component diagram

Decomposition ▼

Correct!

Text

Description of responsibi ▼

Correct!

State diagrams

States and transitions ▼

Correct!

Activity diagrams

Collaborations ▼

Question 6   1 / 1 pts

When using a "box and line" notation for architecture representation, what must be avoided? *(check all that apply)*
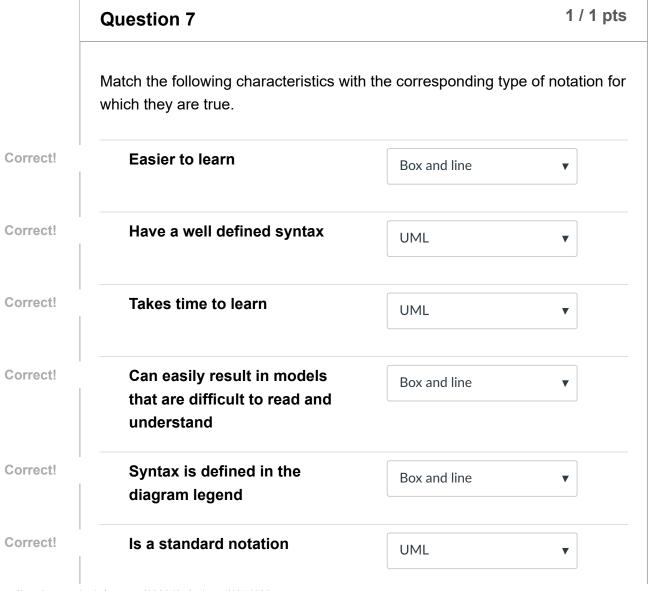
Correct!   ☑ Using the same symbol for different things

Correct!   ☑ Using the same symbol in different ways in different diagrams
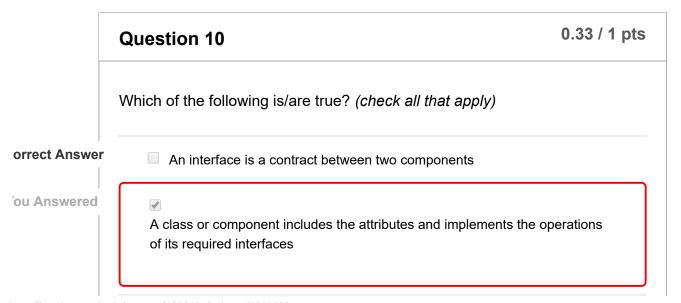
                ☐ Using grammatical conventions to name elements

Correct!   ☑ Mixing static and dynamic elements

                ☐ Including a legend

Question 7   1 / 1 pts

Match the following characteristics with the corresponding type of notation for which they are true.

Correct!   **Easier to learn**

                Box and line ▼

Correct!   **Have a well defined syntax**

                UML ▼

Correct!   **Takes time to learn**

                UML ▼

Correct!   **Can easily result in models that are difficult to read and understand**

                Box and line ▼

Correct!   **Syntax is defined in the diagram legend**

                Box and line ▼

Correct!   **Is a standard notation**

                UML ▼

Question 8   1 / 1 pts

Which model requires the most rigorous notation?

Correct!

- ◉ A model used to generate a system implementation

- ○ A model used for documenting an existing system

- ○ A model used for discussion about an existing or proposed system

Question 9   1 / 1 pts

Responsibilities of architectural elements identified in models/diagrams must be documented

Correct!

- ◉ True

- ○ False

Question 10   0.33 / 1 pts

Which of the following is/are true? *(check all that apply)*

orrect Answer

- ☐ An interface is a contract between two components

ou Answered

- ☑
  A class or component includes the attributes and implements the operations of its required interfaces

Correct!
☑ A class or component realizes its provided interfaces

Correct!
☑ A class or component needs its required interfaces

Question 11   1 / 1 pts

What must documentation of an architectural component contain? *(check all that apply)*

Correct!
☑ Responsibilities

Correct!
☑ Provided and required Interfaces

☐ Implementation details of the component

Question 12   1 / 1 pts

An interface can have one or more operations

Correct!
◉ True

○ False

Question 13   0.67 / 1 pts

What does documentation of an interface contain? *(check all that apply)*

orrect Answer
☐ Name of each operation

Correct!　　　☑ Signature of each operation

Correct!　　　☑ Pre and post conditions of each operation

Question 14　　　　　　　　　　　　　　0.67 / 1 pts

What is a valid UML representation of a provided interface? *(check all that apply)*

Correct!　　　☑ A "ball"/"lollipop" symbol associated with a component

ou Answered　　☑ A "socket" symbol associated with a component

Correct!　　　☑ An <<interface>> stereotyped class

Correct!　　　☑ Its operations and attributes are represented inside the class that realizes that interface

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Question 15　　　　　　　　　　　　　　1 / 1 pts

In a component diagram, how do we know which provided interface pairs up with which required interface?

Correct!　　　☑ By using the same interface name

Correct!　　　☑ By using an assembly connector that wires the interfaces together

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Question 16　　　　　　　　　　　　　　1 / 1 pts

What is true about architecture views? *(check all that apply)*

Correct!

☑ Different views address different stakeholders' concerns

Correct!

☑ Information in different views answers different questions

☐ Separating concerns into views decreases architecture understandability

Correct!

☑ Typically, different views are represented using different diagram types

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Question 17

1 / 1 pts

What are the benefits of using views for documenting software architecture? *(check all that apply)*

Correct!

☑ Separation of concerns

Correct!

☑ Communication with stakeholder groups

Correct!
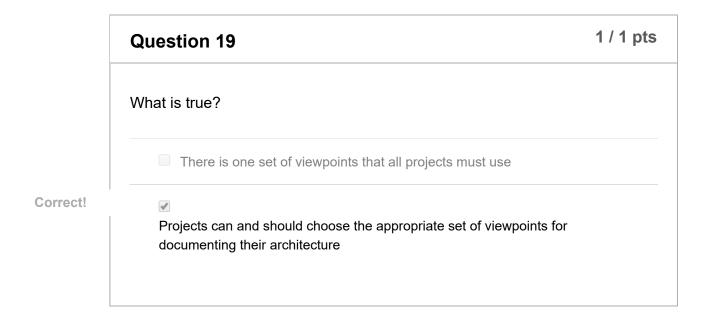
☑ Managing complexity

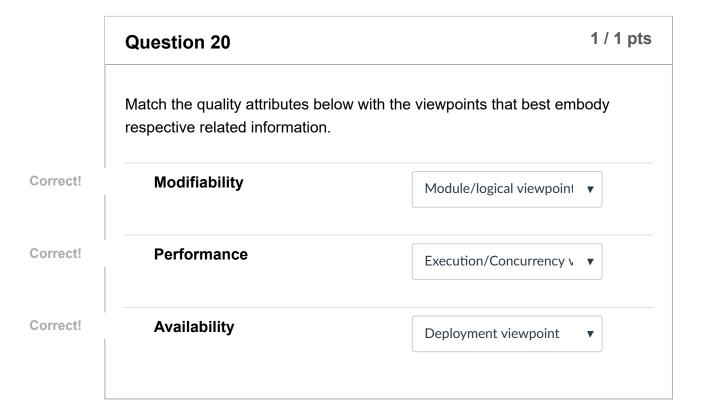
Question 18

1 / 1 pts

Which of the following is/are true? *(check all that apply)*

Correct!

☑
A viewpoint is to a view what a programming language grammar is to a program

Correct!

☑ A view is an instance of a viewpoint

☐ A viewpoint is an instance of a view

Correct!

☑

An architecture is described by one or more views that together provide a coherent description of the system's architecture

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Question 19   1 / 1 pts

What is true?

☐   There is one set of viewpoints that all projects must use

Correct!

☑

Projects can and should choose the appropriate set of viewpoints for documenting their architecture

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Question 20   1 / 1 pts

Match the quality attributes below with the viewpoints that best embody respective related information.

Correct!   **Modifiability**   Module/logical viewpoint ▼

Correct!   **Performance**   Execution/Concurrency v ▼

Correct!   **Availability**   Deployment viewpoint   ▼

Question 21   1 / 1 pts

Architecture specification represents only static structure, but not behavior

○ True

Correct!   ● False

Question 22   1 / 1 pts

Architecture elements collaborate to realize

○ Functional scenarios

○ Quality scenarios

Correct!   ● Both

Question 23   1 / 1 pts

Match the following allocations to the corresponding views

Correct!   **Architectural elements to teams and/or individuals** | Work allocation view ▼ |

Correct!   **Architectural elements to code organization** | Implementation view ▼ |

Correct!   **Architectural elements to machines where they execute** | Deployment view ▼ |

Question 24

1 / 1 pts

What is true about consistency between architectural views *(check all that apply)*

☐   Can be easily established and maintained

Correct!   ☑   Is important for the architecture to be understood

Correct!   ☑   Is necessary for achieving design goals

Question 25

1 / 1 pts

Why is it important to document design decisions and rationale? *(check all that apply*

Correct!   ☑   So the users of architecture will understand it

Correct!   ☑   Developers will follow it in implementation

Correct!   ☑   The architecture author(s) will recall the rationale for their own solution

Correct!   ☑   Obsolete decisions can be removed or changed

Correct!   ☑   Patterns are not violated in implementation and maintenance

Quiz Score: **23.42** out of 25