

quiz no solution w4

Question 1

Which of these views show the functional design of the software, usually in the form of objects and the relationships between them?

- ☐ **physical view**
- ☐ **process view**
- ☐ **logical view**
- ☐ **development view**

Question 2

Which of these UML diagrams are likely to be part of the process view? **Select two correct answers.**

1 point

- ☐ **Activity diagram**
- ☐ **Sequence diagram**
- ☐ **Class diagram**
- ☐ **State diagram**

Question 3

To which view would the Package Diagram belong? Remember that a package diagram shows the packages that make up a software and how they are related.

- ☐ **process view**
- ☐ **development view**
- ☐ **logical view**

☐ **physical view**

Question 4

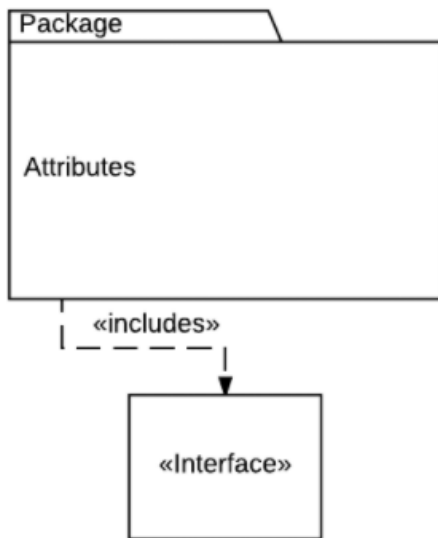
Which of these statements about Component Diagrams is **true**?

- ☐ **They are useful for clarifying the artifacts that will be produced from development**
- ☐ **They do not show third-party libraries**
- ☐ **They give a dynamic view of the system**
- ☐ **They clarify dependency relationships**

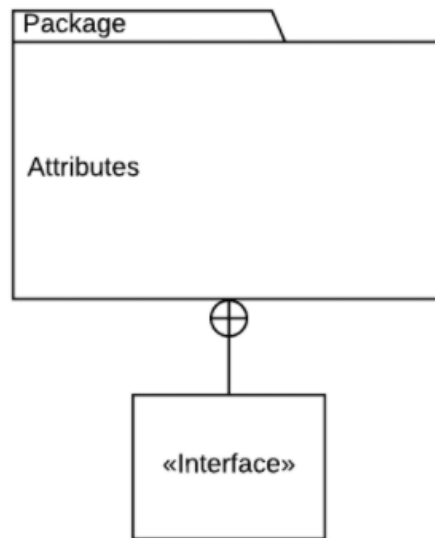
Question 5

Which of these Package Diagrams is **invalid**?

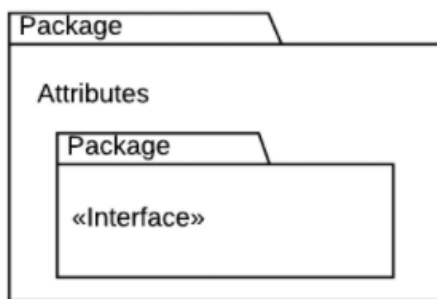
a)



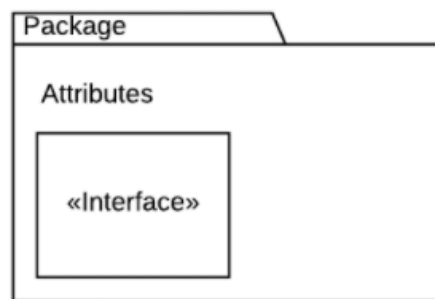
b)



c)



d)



☐ a)

☐ b)

☐ c)

☐ d)

Question 6

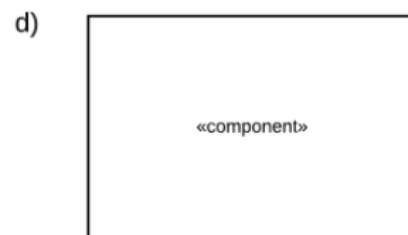
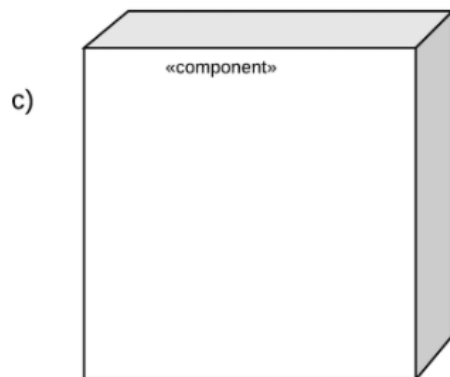
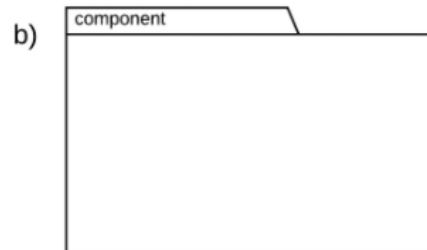
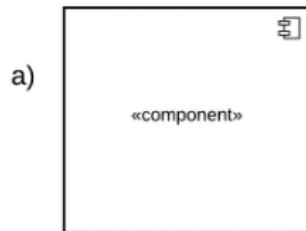
Which of these will you **NOT** find in a deployment diagram?

☐ **component**

- ☐ library
- ☐ device
- ☐ execution environment
- ☐ class
- ☐ artifact

Question 7

Which of these diagrams correctly shows a component?



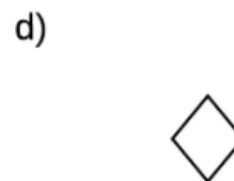
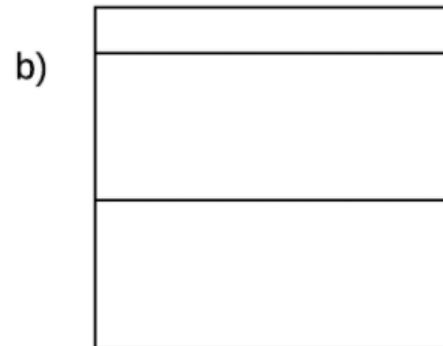
1 point

- ☐ a)
- ☐ b)
- ☐ c)

☐ d)

Question 8

Which of these does **NOT** belong on an activity diagram?



1 point

☐ a)

☐ b)

☐ c)

☐ d)

Question 9

What is an **artifact**?

- ☐ **Part of the development process that is important to the developers, but not the end- users**
- ☐ **A physical realization of a software component**
- ☐ **A part of a device that is nonetheless important to depict on the deployment diagram, like a hard-drive**
- ☐ **An unintended effect that the software has on the device.**

Question 10

What is an abstract data type?

- ☐ **a data type that dynamically allows the storage of different primitives**
- ☐ **a data schema that is defined by the developer**
- ☐ **a data type that is not actually storing data; instead it is used to define interfaces**
- ☐ **an interface that defines how to store data in a class**

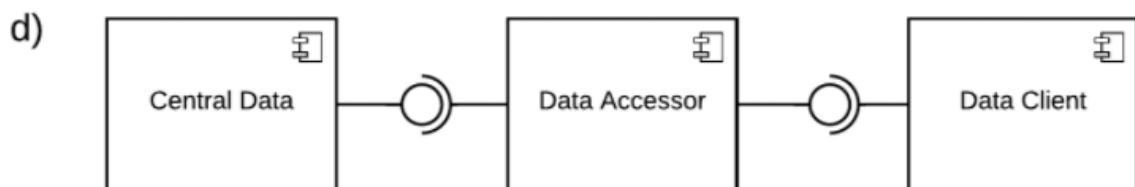
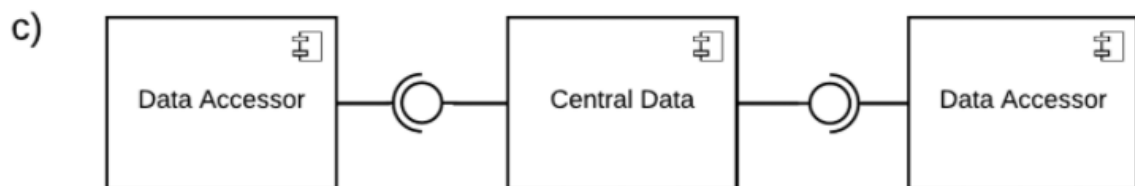
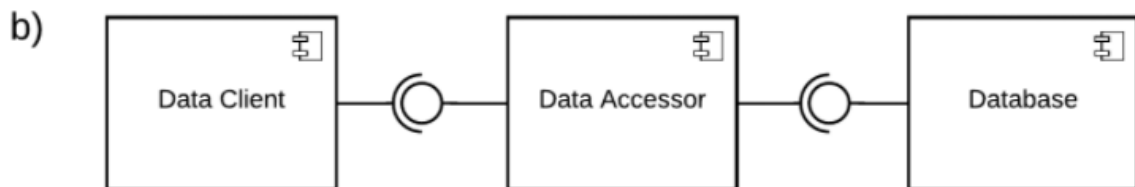
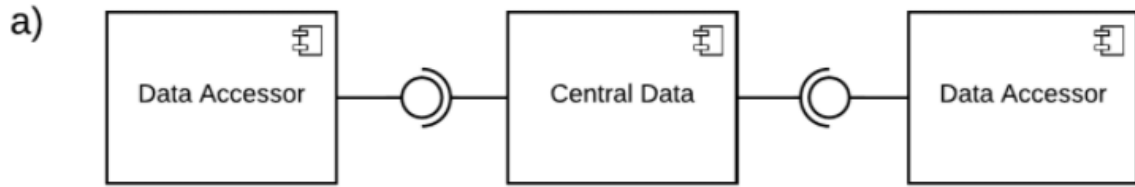
Question 11

Which of these are advantages of main program and subroutine architectural style? Select **two correct answers**.

- ☐ **abstract data types are easy to define and extend**
- ☐ **easily mapped to all kinds of real-world problem spaces**
- ☐ **promotes function modularity and reuse**
- ☐ **efficient for computation focused problems**

Question 12

Which of these accurately represents basic Database Architecture?



☐ a)

☐ b)

☐ c)

☐ d)

Question 13

Select the **one accurate statement** about layered architecture:

- ☐ **Layered architecture is often based on layers of abstraction**
- ☐ **Enforcing communication only between adjacent layers and within a layer is key to good, layered architecture**
- ☐ **Upper layers act as service providers to lower layers**
- ☐ **Passthrough should be avoided at all costs**

Question 14

What is the correct term for a machine that hosts a server?

- ☐ **Called by type: e.g. print server or media server**
- ☐ **server-machine**
- ☐ **server-host**
- ☐ **server-tier**

Question 15

Some programs allow users to record a sequence of inputs - for example keyboard and mouse inputs - to run later. What are these called?

- ☐ **user recorders**
- ☐ **macros**
- ☐ **input listeners**
- ☐ **scripts**

Question 16

Data Flow Architecture is also called...

- ☐ **Pipe and Filter Architecture**
- ☐ **Cascade Architecture**
- ☐ **Black Box Architecture**

☐ **Data Transformation Architecture**

Question 17

Which of these is **NOT** a common component of event-driven architectures?

- ☐ **event bus**
- ☐ **event processor**
- ☐ **event consumer**
- ☐ **event generator**

Question 18

Which type of process control that we discussed is typically needed for complex systems?

- ☐ **Machine Learning**
- ☐ **Feedforward Control + Feedback Control**
- ☐ **MAPE-K**
- ☐ **Feedforward Control**

Question 19

Which of these is a **drawback** of n-Tier architecture?

- ☐ **Every tier demands extra resources to manage the client/server relationships**
- ☐ **Limited in scale**
- ☐ **More hardware nodes are necessary**
- ☐ **Only asynchronous messaging is possible, leading to challenging development decisions**

Question 20

Which of these is **NOT** an example of Interpreter type architecture?

- ☐ **The kernel of an operating system**
- ☐ **Java Virtual Machine**
- ☐ **Excel formulas**
- ☐ **Scripting and Macros**

Question 21

Which of these terms matches this definition: "The amount of time the system is operational over a set period of time?"

- ☐ **interoperability**
- ☐ **usability**
- ☐ **performance**
- ☐ **availability**

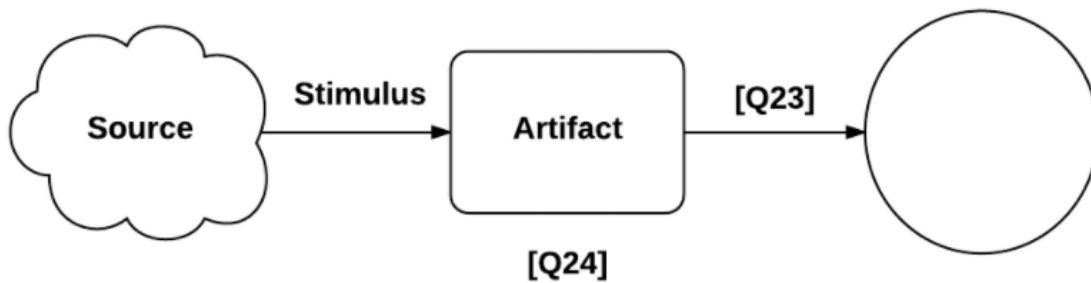
Question 22

Which of these quality attributes is most important from the developer's perspective?

- ☐ **flexibility**
- ☐ **availability**
- ☐ **usability**
- ☐ **security**

Question 23

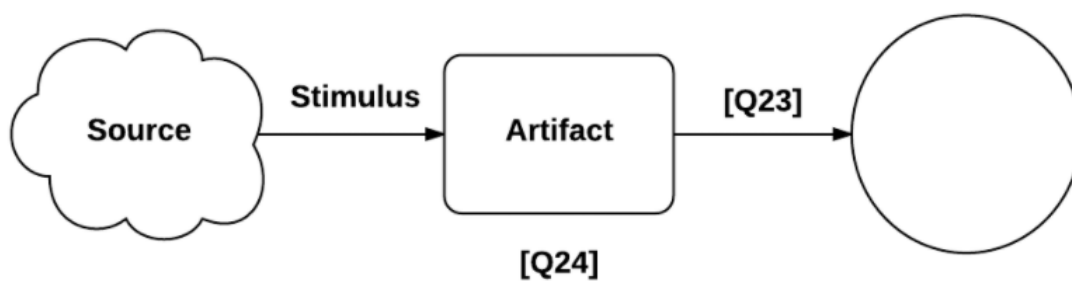
[Q23] could be described as: "**how the artifact will behave as a result of receiving a stimulus.**" What is this called?



- ☐ response measure
- ☐ environment
- ☐ output
- ☐ response

Question 24

[Q24] could be described as: “**the mode of the system when it receives a stimulus.**” What is this called?



- ☐ approach
- ☐ environment
- ☐ context

☐ **scenario**

Question 25

General quality attributes like performance and security have more specific components like throughput and latency for performance. What are these called?

- ☐ **architecture specifications**
- ☐ **architecturally significant requirements**
- ☐ **sensitivity points**
- ☐ **attribute refinement**

Question 26

Which strategy is **NOT** part of delivering a high-quality system?

- ☐ **Set rules for design and implementation**
- ☐ **Treat all quality attributes as equally important**
- ☐ **Involve all stakeholders in design**
- ☐ **Adopt good documentation practices**

Question 27

True or **False**: You should focus on situations that are outside the normal execution path when building a quality attribute scenario.

- ☐ **True**
- ☐ **False**

Question 28

"Maintenance Downtime" is an attribute refinement of what quality attribute?

- ☐ **Availability**

- ☐ **Maintainability**
- ☐ **Performance**
- ☐ **Conceptual Integrity**

Question 29

Eliza is planning a product line of media boxes. Some of these will connect to traditional television lines, whereas others will only have internet media like video-streaming services. What is this type of difference between products called?

- ☐ **Adaptation**
- ☐ **Product-Specifics**
- ☐ **Extension**
- ☐ **Variation**

Question 30

Mozilla Firefox and other browsers have ecosystems of add-ons for their browsers that add functionality, for example by blocking ads or providing tools for online shopping. What is this style of variation called?

- ☐ **Extension**
- ☐ **Reference Architecture**
- ☐ **Replacement**
- ☐ **Adaptation**