

quiz solution w2

Question 1

If you have a program language that is largely procedural, which architecture style are you likely to use?

1 point

- ☐ Pipe and Filter
- ☐ Event Based
- ☒ Main Program and Subroutine
- ☐ Process Control

Question 2

What are some **disadvantages** of Data-Centric Architecture? Select the **2 correct answers**.

1 point

- ☐ Data integrity can be compromised by having it widely accessible.
- ☒ The system becomes heavily reliant on the central data.
- ☒ The existing data schema is difficult to change.
- ☐ Considerable overhead for data transfer between data accessors.

Question 3

Which of these principles is **NOT** characteristic of a layered system?

1 point

- ☐ separation of concerns
- ☐ sandboxing

☒ ~~tight coupling~~

☐ **abstraction**

Question 4

Which of the following is a common messaging pattern in client/server relationships?

1 point

☐ **one-way**

☒ ~~request-response~~

☐ **handshake**

☐ **solicit-response**

Question 5

How does an n-Tier architecture differ from a layered architecture?

1 point

☐ **A layered architecture is limited to three layers, whereas an n-tier can go to as many as are needed**

☒ ~~The interaction between tiers in an n-Tier architecture is strictly message-based~~

☐ **Layered architectures are more loosely coupled**

☐ **n-Tier architectures are only found on the Internet**

Question 6

Which of these is **NOT** a possible use for Interpreters?

1 point

☐ **Giving end users the opportunity to program scripts or macros**

☐ **Allowing developers to develop add-ons in a common language**

- ☐ **Abstracting away platform details**
- ☒ **Enhancing resource usage efficiency**

Question 7

Which of these is an advantage of event-based architecture?

1 point

- ☐ **All interactions happen synchronously**
- ☐ **Events trigger responses in a predictable manner**
- ☐ **Events are processed with more efficiency**
- ☒ **Event generators and event consumers are loosely coupled**

Question 8

There is a common technique that is used in event architectures to indicate whether or not a particular resource is being accessed by another process at that moment. What is it called?

1 point

- ☐ **access switch**
- ☒ **semaphore**
- ☐ **occupied**
- ☐ **toggle**

Question 9

Beverly is asked to develop a way to control a process. There is a device to measure the height of liquid in a tank, and when the tank is almost full, a pump turns on to empty the tank. Which type of process control architecture will she use?

1 point

☒ **Feedforward Loop**

☐ **Open Loop**

☐ **Feedback Loop**

☐ **Shooting Control**

Question 10

What are the steps in complex, process control system architectures, such as self-driving cars?

1 point

☐ **sense, interpret, model, act**

☒ **monitor, analyze, plan, execute**

☐ **read, plan, deliver**

☐ **analyze, model, plan, act**

Question 11

Which of these applications would be best suited to a procedural programming paradigm, such as the Main Program and Subroutine architecture?

1 point

☐ **Accessing data from a repository**

☐ **A self-driving car**

☐ **A user interface, such as a simple poker game**

☒ **Analyzing data and producing reports**

Question 12

Which of these is **NOT** an advantage of pipe and filter architectures?

1 point

☐ **Complex transformations can be broken down into subtasks**

- ☐ **Filters can be reused**
- ☒ **~~Data transformation is computationally efficient~~**
- ☐ **Filters are loosely coupled**