Module 12 Knowledge Check

What is the Internet of Things (IoT)?

○ The World Wide Web of computers

○ The connection of millions of devices that exchange data

○ The use of robots with artificial intelligence (AI) to replace human workers

○ The use of quantum processors in computers

B

How is the IoT dependent on cloud technology? (Select THREE)

☐ The data shared between devices passes through the cloud.

☐ The IoT is not made of actual devices, only virtual ones in the cloud.

☐ The amount of data and devices would require too much storage for local servers.

☐ The cloud is needed as a place to analyze data from more than one device.

A, C, D

Which scenarios describe IoT solutions? (Select TWO)

☐ A delivery company has difficulty monitoring its drivers, delivery schedules, and vehicle performance. The company sets up sensors that can report on vehicle repair needs, drivers' vital signs, and traffic.

☐ An application lets vacationers keep a check on their dwelling through fire, smoke, water, and motion sensors that connect to user devices.

☐ A large municipality discovered its static website had many coding bugs. A programmer was hired to rewrite the code.

☐ A copy machine keeps lots of data about copy jobs, users, and malfunctions in its hard drive. When someone calls for help, the repair person can pull up the information and analyze it.

A, B

Which use cases describe Amazon Web Services (AWS) IoT services? (Select THREE)

☐ Installation of telephone systems at many local businesses.

☐ An app connects televisions with Alexa.

☐ A service manages cameras, videos, and user devices and connects them through the cloud.

☐ A smart belt that workers wear. It sends data about the workers to the cloud to help manage their systems.

B, C, D

Which statements describe the IoT? (Select THREE)

☐ Your company's printer senses it is low on toner. The system sends a command to the warehouse, which ships out a new toner to you.

☐ Your phone unlocks by your fingerprint.

☐ Your coffee maker turns on and begins brewing after your smart watch senses you are waking.

☐ A car has sensors that can tell when there is a crash. The car's system accesses its location and sends an alert to the police and rescue closest to the accident.

A, C, D

Module 13 Knowledge Check

What best describes the function of AWS CloudFormation?

○ Writing code for artificial intelligence (AI) to access

○ Launching the infrastructure of a cloud-based network

○ Storing vast amounts of data in the cloud

○ Connecting many network devices

B

A new company without a large IT department wants to set up a dynamic website for its business. What is likely to be the most efficient plan?

○ Train employees in web development over several months, permitting them to custom create the website and virtual resources needed to manage it.

○ Choose an internal physical network that can be modified and improved over time by IT staff because that is much easier to set up.

○ Hire a large IT firm to set up a custom network using a variety of services that must be integrated.

○ Use AWS templates to configure services without needing coding expertise or network hardware.

D

Which of the following is a need that CloudFormation can help address? (Select THREE)

☐ A company wants to set up a secure cloud environment with constantly updating production, development, and test environments for new releases.

☐ A company wants to host its software products in the cloud and securely exchange software products, payments, and updates with customers.

☐ A company would like to reconfigure cryptocurrency websites for more secure transactions.

☐ A company has many files and programs and would like to migrate them to the cloud.

A, B, C

Module 14 Knowledge Check

Which of the following characteristics of big data requires that the data be collected and processed at high speeds?

○ Volume

○ Variety

○ Velocity

○ Veracity

C

Alejandro Rosalez is very interested in early jazz music and its evolution. He has set up a database to collect the data he finds, which might include photos, sound files, maps, personal diaries, and song lyrics. Which of the following characteristics of big data applies to the types and sources of data that Alejandro will collect and store?

○ Volume

○ Variety

○ Velocity

○ Veracity

B

Which of the following statements is true regarding the risks of big data?

○ Big data is secure, so cybersecurity threats are unable to access important information.

○ Computers are not biased, so the results of analyzing big data cannot be biased.

○ Regulations concerning big data are often confusing, not enforceable, or not current.

○ The only risk with big data relates to storage space and data loss.

C

Module 15 Knowledge Check

What does ETL stand for in relation to big data processing?

○ Extra transaction load

○ Extract, transform, and load

○ Error tracking log

○ Electronic transformation and loading

B

Which type of analytics focuses on hindsight and tries to answer the question "What happened?"

○ Descriptive analytics

○ Diagnostic analytics

○ Predictive analytics

○ Prescriptive analytics

A

Which data type is best suited for storage in a relational database?

○ Structured

○ Semi-structured

○ Unstructured

○ All of the above

A

Choose the answer that represents the typical order for the phases of the big data processing cycle.

○ Consume and visualize, process and analyze, collect, store

○ Collect, process and analyze, store, consume and visualize

○ Process and analyze, collect, store, consume and visualize

○ Collect, store, process and analyze, consume and visualize

D

Module 16 Knowledge Check

Which of the following statements are true concerning blockchain? (Select THREE)

- ☐ It relies on a central authority.

- ☐ It relies on cryptographic hashes to verify transactions.

- ☐ It relies on an open distributed ledger.

- ☐ It relies on unanimous agreement among its participants.

B, C, D

Which of the following statements are true concerning blockchains? (Select TWO)

- ☐ The price of blockchains varies widely from day to day.

- ☐ All blockchains are implemented using Bitcoin software.

- ☐ Blockchains are fast.

- ☐ Blockchains involve the use of one main ledger to record all transactions.

- ☐ Blockchains can store transactions such as health records or manufacturing records.

C, E

Which of the following statements most accurately describes blockchain applications?

- ○ Blockchain software must be written from scratch for every application.

- ○ Blockchains eliminate all fraud from any transactions in which they are used.

- ○ Blockchains are extremely costly as blockchain miners are expensive.

- ○ Blockchains can transform business transactions that involve trusting a central authority.

D

What does it mean when a blockchain transaction is secured or hardened by cryptographic hashes? (Select TWO)

- [ ] All the details of the transaction are transparent.
- [ ] Techniques have been used to reduce security risks and prevent alterations.
- [ ] The transaction is valid and enforceable.
- [ ] The transaction has been fulfilled.
- [ ] Each block in the blockchain contains the hash of the previous block.

B, E