Lesson 1 - Blockchain Intro

Companies interested in digital transformation and modernization are monitoring progress being made on several technology fronts including Cloud Computing, Internet of Things (IoT), Artificial Intelligence (AI), Quantum Computing, and Blockchain.

*Some high-level distinctions worth noting are that Cloud and IoT center around the **placement** of machines and applications, AI and Quantum Computing center around a machine's **performance**, while blockchain centers around streamlining and securing **procedures** for conducting business transactions online. Neither Cloud computing, IoT, or Blockchain are new technologies. They are based on new ways of using and combining different technologies that have existed for a long time.*

For example, both cryptography and double-entry accounting were around long before the first computers. Ledger is an accounting term referring to a record-keeping mechanism for tracking business transactions. The double entry bookkeeping system means that accounts debited must balance with accounts credited. Each transaction involves a debit and a
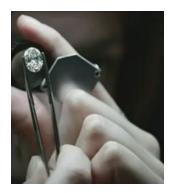

credit for at least two accounts, or more.

Blockchain technology adds a third entry to cryptographically seal the double entries.

Blockchains provide an efficient and secure way for people to make any type of transaction online without having to trust anyone.

The lessons comprising the introduction to blockchain will focus on understanding how blockchain technology accomplishes that feat, and also look at who is having an impact in the marketplace.

For starters, please take 2 minutes now to view this video from IBM "Securing The Diamond Trade With Blockchain" to learn about the key characteristics of the blockchain ledger. which is used to create an auditable and indisputable record of every transaction from the mine to the consumer.

click here to watch *(When finished, please return here and continue reading.)*

Here is a short definition for blockchain touching on a few of the main points:

A blockchain is a triple-entry digital ledger used to record status of a digital asset.This ledger is shared by multiple parties to a transaction, thereby eliminating the need for each party involved in a transaction to maintain their own ledger. Participants in a transaction may be individuals, institutions, businesses, government agencies, or programs called smart contracts. View a 40 second video of where a blockchain was used to build a smart supply chain that was ultimately used to track coffee beans being shipped internationally. Click here.

Consider the efficiencies obtained by sharing a ledger. Ledger sharing among all participants can greatly reduce the time it takes to complete a complicated business deal. All associated transactions regarding that digital asset, and all the conditions surrounding the disposition of that digital asset are recorded and linked together to form a chain of records. The blockchain technology also provides a permanent, secure, decentralized, tamper-proof environment for conducting business, which further explains why it is attractive to its users. If somebody tries to change a blockchain record in their copy of the ledger, it is easily detectable by any and all of the keepers of the other copies.

When you finish watching, please continue by answering the quiz questions that follow.