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Module 7 Assignment

Part 1:

a. Mainframe architecture is the usage of mainframe computers for the applications that require large amounts of processing power and data storage. They are generally used in large businesses or organizations.
b. Mainframe computing is required when the application is being used for requires a lot of processing power and a large amount of data to be stored. Another use case for the mainframe computers system is the requirement for continued availability. For example, customer transactions are be handled through the use of mainframe architecture.

Part 2:

a. A client server architecture is when multiple clients or nodes borrow resources from a single computer called the server. The clients initiate requests and the servers fulfill those requests
b. Tiers are different logical or physical separations of computing resources that make the client server model easier to work with. There are three tiers in the client server model. The first tier is the presentation layer where the user interface sits. The second layer is the application layer where all the logic for what is needed to be displayed to the user lives. The third layer is the data storage layer where all the data related to first two layers is stored.
c. The widespread availability of the computers at the fraction of the cost of the mainframe computers, combined with the development of the local area networks was what enabled organizations to deploy the client-server model.

Part 3:

a. The microservices architecture is when services are independent of one another and can be deployed, maintained, and scaled individually. The benefits of this model are that there is increased fault tolerance. Since all the services are independent of each other, failure of one service doesn't disrupt the availability of another service. Another benefit is that the services can be scaled as needed.
b. Microservices model can be either mainframe architecture or client-server architecture depending on how it was implemented. Since the implementation of microservices can depend on the needs of the business or the organization, it can be implemented in either way.