**\*\*\*WRITE BRIEF AND PRECISE ANSWERS. READ THE QUESTION AND ANSWER ONLY WHAT IS ASKED\*\*\***

1. **What are the OLTP and OLAP services available in SQL Server software stack? How do OLTP and OLAP services differ in their design and usage?**

**OLTP: SQL Server Database Engine**

**OLAP: SQL Server Analysis Services (SSAS)**

**b.**

**OLTP: Normalized Tables, Optimized for Read/Write**

**OLAP: Denormalized Tables, Optimized for Read**

1. **What is the purpose of ETL? How does it differ from ELT? Can you think of a scenario where you would ETL and ELT.**
2. **Extract data from any source, transform/modify it, and then load it in the destination system.**
3. **ETL does data transformation/modification on the server where ETL service is running, whereas ELT loads the data first in the destination system and performs the transformation using SQL.**
4. **ETL: generally small transformations, offload compute from the destination system**

**ELT: transformations required on extremely large set of data, can utilize compute from the destination system using SQL, which big data systems are generally very well suited for.**

1. **Mention 2 reasons why you must use SQL Server VM instead of SQL Server PaaS service when migrating to the cloud.**
2. **SQL PaaS offering not supported by Software Vendor**
3. **Requirement to install a required software on server running the database engine (e.g., pdf indexer, etc.)**

References

* **SQL Server Components & Services:** [**https://learn.microsoft.com/en-us/sql/sql-server/what-is-sql-server**](https://learn.microsoft.com/en-us/sql/sql-server/what-is-sql-server)
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