1, The difference between SQL and NoSQL is:

**Type:**

SQL databases are Relational Databases(RDBMS); Whereas NoSQL databases are non-relational or distributed databases.

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| SQL | NoSQL |
| -SQL databases use structured query language and have a predefined schema.  -SQL databases are vertically scalable  -SQL databases are table based,  -SQL databases are better for multi-row transactions | -NoSQL databases have dynamic schemas for unstructured data.  -NoSQL databases are horizontally scalable.  -NoSQL databases are document, key-value, graph or wide-column stores.  -NoSQL is better for unstructured data like documents or JSON. |

**Advantages of SQL over NoSQL**

The main advantage of SQL databases is that they allow us to easily store data that we can classify. When we need this data next time, easily get it using a query, as well as filter it depending on its category and property. easily expand our database if we need to add a new category. This will not affect existing applications.

Relational databases are accurate; they avoid duplication of data as they store data once. The database is flexible enough so that we can easily perform complex queries.

We can access the database together with other users, and also we can restrict their access rights. SQL database models are understandable.

**Advantages of NoSQL over SQL**

NoSQL over SQL is that the database can grow horizontally, we can add data without losing the structure, and in order for the performance to remain at the same level, we just need to update the equipment or add more hosts, rather than buying more servers. It can store and work with enormous amounts of data; the maintenance is cheap, as the database has built-in functions like automatic repair and simpler data models. No schema is required to load data into a NoSQL database because the format and model can be changed at any time. The system memory is used to store cache data.

**SQL disadvantages**

The main drawback of such databases is that we need to pay much attention to the data structure before we add the data itself. Sometimes we cannot predict what structure we may subsequently need; therefore, it is difficult to avoid errors in the structure. Moreover, over time, the structure may become more sophisticated or even it can change, so the database can change dramatically, and optimizing the structure of the SQL database is a rather difficult and expensive task.

**NoSQL disadvantages**

It is not widely used and requires many updates and implementations to become a real SQL competitor. It lacks the facilities for ad-hoc query and analysis.

It is challenging to transfer data from NoSQL to programming languages with rigid types, as the structure is inaccurate. bad or poor customer support.