1.Explain the difference between Cassandra and typical databases.
ANS:

Difference between Cassandra and Database:-

Cassandra: Cassandra is a high-performance and highly scalable distributed NoSQL database management system. Cassandra deals with unstructured data and handles a high volume of incoming data velocity. In Cassandra data is written in many locations also data come from many locations this row represents a unit of replication and the column represents a unit of storage.

Database: Relational Database Management System (RDBMS) is a Database management system or

software that is designed for relational databases and uses Structured Query Language (SQL) for querying and maintaining the database. It deals with structured data and handles moderate incoming data velocity. In RDBMS mainly data is written in one location also data come from one/few locations and a row represents a single record column that represents an attribute.

2.What exactly is CQLSH?

ANS:

cqlsh is **a command-line interface for interacting with Cassandra using CQL (the Cassandra Query Language)**. It is shipped with every Cassandra package, and can be found in the bin/ directory alongside the cassandra executable.

Cassandra Query Language Shell (CQLSH) is basically a communication medium between Cassandra and the user. CQLSH is a platform that allows the user to launch the Cassandra query language (CQL).

The user can perform many operations using cqlsh. Some of them include: defining a schema, inserting and altering data, executing a query etc..

When working on a **Linux operating system**, a user can start Cassandra Query Language Shell by executing simple command 'cqlsh'. Whereas, when working in a Windows operating system, a user has to execute 'python cqlsh' to run cqlsh.

These commands will activate cqlsh prompt. Furthermore, there are many

commands that the user can use to know more about cqlsh.

3.Explain the Cassandra clusters idea.
ANS:

A Cassandra cluster does not have a single point of failure as a result of the peer-to-peer distributed architecture. **Nodes in a cluster communicate with each other for various purposes**. There are various components used in this process: Seeds: Each node configures a list of seeds which is simply a list of other nodes.

A cluster in Cassandra is **one of the shells in the whole Cassandra database**. Many Cassandra Clusters combine together to form the database in

Cassandra. A Cluster is basically the outermost shell or storage unit in a database. The Cassandra Cluster contains many different layers of storage units.

Cassandra is a peer-to-peer distributed system made up of a cluster of nodes in which **any node can accept a read or write request**. Similar to Amazon's Dynamo DB, every node in the cluster communicates state information about itself and other nodes using the peer-to-peer gossip communication protocol.

4.Give an example to demonstrate the class notion.

ANS:

The definition of a notion is an idea, belief or vague knowledge of something.

An example of a notion is **when you have an idea of what acceptable behavior is**. An example of a notion is when you sort of remember hearing about a particular fact.

Notion sentence examples:-

- Sometimes Jeff had this notion about protecting me from anything unpleasant. ...
- And besides, what a notion that medicine ever cured anyone! ...
- Anatole had no notion and was incapable of considering what might come of such love-making, as he never had any notion of the outcome of any of his actions.

In sewing and haberdashery, notions are small objects or accessories, including items that are sewn or otherwise

attached to a finished article, such as **buttons, snaps, and collar stays**. Notions also include the small tools used in sewing, such as needles, thread, pins, marking pens, elastic, and seam rippers.

5.Use an example to explain the object.
ANS:

An object is an entity having a specific identity, specific characteristics and specific behavior. Taking a car as an example of an object, it has characteristics like colour, model, version, registration number, etc. It has behaviours like start the engine, stop the engine, accelerate the car, apply the brakes, etc.

An object is **an abstract data type with the addition of polymorphism and**

inheritance. Rather than structure programs as code and data, an object-oriented system integrates the two using the concept of an "object". An object has state (data) and behavior (code). Objects can correspond to things found in the real world.