**Assignment-12.3**

1. Explain the uses of NoSQL Databases in brief and list the current NoSQL databases which are available.

* When compared to relational databases, NoSQL databases are [more scalable and provide superior performance,](https://www.mongodb.com/scale) and their data model addresses several issues that the relational model is not designed to address:
* Large volumes of rapidly changing structured, semi-structured, and unstructured data.
* Agile sprints, quick schema iteration, and frequent code pushes.
* Object-oriented programming that is easy to use and flexible.
* Geographically distributed scale-out architecture instead of expensive, monolithic architecture.

### [Cassandra](https://cassandra.apache.org/)

### [Scylla](http://www.scylladb.com/)

### [Hypertable](http://hypertable.org/)

### [MapR](http://www.mapr.com/), [Hortonworks](http://www.hortonworks.com/), [Cloudera](http://www.cloudera.com/)

### [Amazon SimpleDB](http://aws.amazon.com/simpledb/)

1. [Cloudata](http://www.cloudata.org/)
2. [MonetDB](https://www.monetdb.org/)
3. [Hadoop / HBase](http://hadoop.apache.org/)
4. Explain the Differences between Hive and HBase in Brief with examples.

* [Apache Hive](https://hive.apache.org/) is a data warehouse infrastructure built on top of Hadoop. It allows for querying data stored on HDFS for analysis via HQL, an SQL-like language that gets translated to MapReduce jobs. Despite providing SQL functionality, Hive does not provide interactive querying yet - it only runs batch processes on Hadoop.
* [Apache HBase](https://hbase.apache.org/) is a NoSQL key/value store which runs on top of HDFS. Unlike Hive, HBase operations run in real-time on its database rather than MapReduce jobs. HBase is partitioned to tables, and tables are further split into column families. Column families, which must be declared in the schema, group together a certain set of columns.
* Hive and HBase are two different Hadoop based technologies - Hive is an SQL-like engine that runs MapReduce jobs, and HBase is a NoSQL key/value database on Hadoop.
* Just like Google can be used for search and Facebook for social networking, Hive can be used for analytical queries while HBase for real-time querying. Data can even be read and written from Hive to HBase and back again.