**1.Hbase is a schema less database, what does it mean?**

**In RDBMS like sql we define the schema (ie) we give a table with name ,address,city as column to which record will be entered.but suppose if we want to add an additional column say state in the middle it cannot be done in SQL .Similarly it imposes contraints suppose if we define name as string it can alone be entered and other datatypes cannot be entered.Similarly in SQL memory will be allocated for fields irrespective of value is present or not .This is schema database**

**But in Hbase since data is stored in a columnar manner,Columns can be added on fly (ie) if we want to enter a additional column for a single record it can be done**

**Similarly since all the data is read as byte array there is no constraints too.**

**Another thing is that even though we give some schema like column family,it can also be altered**

**Thus HBase can be considered as a schema less table**

**2.What is the minimum number of column family every Hbase table should have**

**Every HBase table must have at least one column family.**

**This is because Column family also impact how the data should be stored physically in the HDFS file system, hence there is a mandate that you should always have at least one column family. We can also alter the column families once the table is created.**

**Every piece of data in HBase is in a Cell (KeyValue) which has a row, column family, column qualifier, timestamp, and a value. The column families are defined statically when creating the table and cannot be altered without disabling the table.**

**3.What is the benefit of using connection pool in Hbase?**

**Opening/Closing Hbase connections is an expensive process and hence connection pools improve the performance of execution of commands on a database for which we maintain connection objects in the pool. It facilitates reuse of the same connection object to serve a number of client requests.**

**Every time a client request is received, the pool is searched for an available connection object and it's highly likely that it gets a free connection object.**

**Otherwise, either the incoming requests are queued or a new connection object is created and added to the pool (depending upon how many connections are already there in the pool and how many the particular implementation and configuration can support). As soon as a request finishes using a connection object, the object is given back to the pool from where it's assigned to one of the queued requests (based on what scheduling algorithm the particular connection pool implementation follows for serving queued requests). Since most of the requests are served using existing connection objects only so the connection pooling approach brings down the average time required for the users to wait for establishing the connection to the database.**

**Java Code to create Connection In HBase**

**// Create a connection to the cluster.**

**HConnection connection = HConnectionManager.createConnection(Configuration);**

**HTableInterface table = connection.getTable("myTable");**

**// use table as needed, the table returned is lightweight**

**table.close();**

**// use the connection for other access to the cluster**

**connection.close();**