**1. Why Map-reduce program is needed in Pig Programming?**

**Ans**: Users start with a Pig script or the Pig command line (called Grunt).

Pig parses, compiles, optimizes, and fires MapReduce statements.

Map-Reduce accesses HDFS and returns the results. This is reason why Map-reduce programs are needed in Pig programming.

**2. What are advantages of pig over MapReduce?**

**Ans**: Programmers need not think in terms of map and reduce functions, rather they can only concentrate on the logic.

Java programmers are not mandatorily required, people with any elementary programming language knowledge are sufficient.

**3. What is pig engine and what is its importance?**

**Ans :** Pig engine parses, optimizes, and automatically executes Pig Latin scripts as a series of MapReduce jobs on a Hadoop cluster.

it acts as an interpreter between pig latin script and map reduce jobs.

It creates environment to execute pig scripts into a series of map reduce jobs in a parallel manner.

**4. What are the modes of Pig execution?**

**Ans:** There are 2 modes of Pig execution.

**MapReduce/Hadoop Mode :** Here Pig jobs run as a series of MapReduce jobs picking the input and output paths from HDFS.

Note: Input file has to be copied in HDFS in case of Map reduce mode.

Type the command **pig or pig –x mapreduce** to run Pig in MapReduce Mode.

**Local Mode:** Here the entire Pig job runs as a single JVM picking the local Unix path for execution.

Note: Input file has to be kept in local file system in case of local mode.

Type the command **pig or pig -x local** to run Pig in Local Mode.

**5. What is grunt shell in Pig?**

**Ans:** It is the Interactive Shell for executing Pig Commands.

It's used when script file is not provided.

It can execute scripts from Grunt via run or exec commands.

**6. What are the features of Pig Latin language?**

**Ans :** Pig Latin is a command based scripting language and designed specifically for data transformation and flow.

Pig Latin Scripts start by loading one or more data sets in a bag, and then creates new bags by modifying.

**7. Is Pig latin commands case sensitive?**

**Ans :** Keywords LOAD, USING, AS, GROUP, BY, FOREACH, GENERATE, and DUMP are case insensitive. They can also be written as load, using, as, group, by, etc

Function names PigStorage and COUNT are case sensitive.

**8. What is a data flow language?**

**Ans :** In computer programming, dataflow programming is a programming paradigm that models a program as a directed graph of the data flowing between operations, thus implementing dataflow principles and architecture.