DATABASE TECHNOLOGY
WEEK 13 ASSIGNMENT

Explain the Features of oracle database system.

Oracle database manages data with the help of an open, complete, and integrated approach. The following are features that complete the demand for powerful database management:

- Availability
- Security
- Scalability
- Analytics
- Management
- Performance

Availability: It is never offline or out of service that means supported 24*7 availability of the database. It provides high availability of databases because of the Oracle Data Guard functionality. This functionality allows using of the secondary database as a copy of the primary database during any failure. As a result, all normal processes such as backups and partial failures do not interrupt the database from being used.

Security: Oracle has a mechanism for controlling and accessing the database to prevent unauthorized access. It provides high security because of the Oracle Advanced Security features. It offers two solutions to protect databases that are TDE (Transparent Data Encryption) and Data Redaction. TDE supports data encryption both at the source and after export. Redaction is performed at the application level. Oracle has some other security features like Oracle Database Vault that regulates user privileges and Oracle Label Security.

Scalability: It provides features like RAC (Real Application Cluster) and Portability, which makes an Oracle database scalable based on usage. In a clustered environment, it includes capabilities such as rolling instance migrations, performing upgrades, maintaining application continuity, quality of service management, etc.

Performance: Oracle provides performance optimization tools such as Oracle Advanced Compression, Oracle Database In-Memory, Oracle Real Application Testing, and Oracle Times Ten Application-Tier Database Cache. Their main objective is to improve system performance to the highest possible level.

Analytics: Oracle has the following solutions in the field of analytics:

- **OLAP (Oracle Analytic Processing):** It is an implementation of Oracle for doing complicated analytical calculations on business data.

- **Oracle Advanced Analytics:** It is a technical combination of Oracle R Enterprise and Oracle Data Mining that assists customers in determining predictive business models through data and text mining, as well as statistical data computation.

Management: Oracle Multitenant is a database management tool that combines a single container database with many pluggable databases in a consolidated design.