**Java Full Stack Training Notes**

**Day 1**

**11/01/2020**

**Database :**

Program :

Input : Data

Process : Business rules

Output :Data

1 File based system

2 Database System

Limitation of File base system

1. Data Redundancy (Storing same records or duplicate records)
2. Data inconsistency (format of the file)
3. Data Security (read or write mode)

.txt

Employee.txt

Id,name,Salary

1,Ravi,12000

2,Ramesh,1400

Employee.txt

Id name Salary

1 Ravi 12000

2 Ramesh 1400

.doc

.pdf

**Database :**

Data : row fact

Information : Processed data or meaningful data.

Database : Storing data and information in proper format like table.

DBMS :Database Management System. It is a software which help to store the data in a table format.

Excel sheet is a small DBMS.

Employee – Table

Columns

Id Name Salary Row

1 Ravi 12000

2 Ramesh 14000

Database Model

Hierarchical Model

Network Model

RDBMS

Relational model

TrainerStudentRecords

TId TName Tech Sid SName Age

1 Raj Java 100 Seeta 21

1 Raj Java 101 Meeta 22

1 Raj Java 102 Leeta 23

2 Ravi Python 103 Keeta 24

2 Ravi Python 104 Veeta 25

Trainer

PK

Tid TName Tech

1 Raj Java

2 Ravi Python

Student

PK FK

Sid SName Age TSId

100 Seeta 21 1

101 Meeta 22 1

102 Veeta 23 2

103 Leeta 24 null

104 Teeta 25 3 Error

RDBMS : Table is known as Relation

Column is known as Attribute

Row is known as Tuple or records

1970

Dr EF Codd’s Rules

12 Rules start from 0 to 11

RDBMS

RDBMS Company

Oracle Oracle

MySQL Sun Microsystem (Oracle)

SQL Server

2020/19 Microsoft

Db2 IBM

SQL : Structure Query Language

5 types

1. DRL or DQL (Data Query Language or Data Retrieval Language)
   1. Select Clause
2. DDL : Data Definition Language
   1. Create, Drop, Alter , Truncate , rename
3. DML : Data Manipulation Language
   1. Insert , Delete and Update
4. TCL : Transaction Control Language
   1. Commit, rollback and savepoint
5. DCL : Data Control Language
   1. Grant and revoke

Oracle :

MySQL :

90% SQL Query

**Oracle :**

In Oracle Database Login itself is database.

**scott : username**

**By default oracle database username is scott/admin/oracle etc**

**Scott username**

**Tiger password**

**select \* from tab;** tab is pre-defined table provided by oracle database to check all pre-defined as well as user-defined tables.

MySQL/db2/sql server

**create database databaseName;**

**show databases;**

**use databaseName;**

**show tables;**

SQL

NoSQL

MongoDB

JSON

Document

Id,name,age

Id,phnumber

Id,image

Info