**Tutorial DQ**

# Objectives

* To grasp what data issues there may exist in a database
* To understand how you can deal with the anomalies in a database

## Tasks

Given is a script on the last page, that has data for two tables: emp and dept. These belong to a scott database that we will be working with, on this module.

* First check out the table code, for table structure, columns, size and data types to be entered.
* Now check for the constraints defined on the table. What constraints, we have got. Is anything missing?
* Note that many anomalies with the data can be prevented if tables are defined correctly, when created!
* Now look at the data in each column. What errors in data can you spot? Use lecture slides to help you group any data errors that you find. List them in a table and propose what measures can be taken short-term, and long-term. Also, specify the error type and how error has occurred, for each error you find in emp and depth tables.

Good Luck!

# Tables:

DROP TABLE DEPT CASCADE CONSTRAINTS ;

DROP TABLE EMP CASCADE CONSTRAINTS ;

CREATE TABLE DEPT (

DEPTNO NUMBER (2) NOT NULL,

DNAME VARCHAR2 (14),

LOC VARCHAR2 (13),

CONSTRAINT PK\_DEPT);

CREATE TABLE EMP (

EMPNO NUMBER (4),

ENAME VARCHAR2 (10),

JOB VARCHAR2 (9),

MGR NUMBER (4),

HIREDATE VARCHAR2 (12),

SAL NUMBER (7,2),

COMM NUMBER (7,2),

DEPTNO NUMBER (2),

CONSTRAINT PK\_EMP

PRIMARY KEY ( EMPNO ));

INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (10, '', '');

INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (20, 'RESEARCH', 'DALLAS');

INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (30,'SALES', 'CHICAGO');

INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (40,'OPERATIONS', 'BOSTON');

INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7369, ' ', 'CLERK ', 7902, '17-DEC-80', 800, null, 20);

INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7499, 'ALLEN', 'SALESMAN', 7698, '17-DEC-80',1600, 3000, 'D30');

INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7521, 'WARD', ‘ ‘ , 7698, '17', 1250, 500, 30);

INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7522, 'WARD', 'SALESMAN', 7698, '17-DEC-80', 1250, 500, 30);

INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7566, '1111', 'MANAGER', 7839, '17-DEC-80', 2975, null, 20);

INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES ( 7654, 'MARTIN','SALESMAN', 7698, '17-DEC-80', 1250, 1400, 30);

INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES ( 7698, 'BLAKE', 'MANAGER', 7839, '17-DEC-80', 2850, null, 30);

INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7782, 'CLARK', 'MANAGER', 8888, '17-DEC-80', 2450, null, 50);