**104KM Enterprise Information Systems**

**Tutorial Activity – Week 6**

**Objective**

- Understanding and performing advanced queries operation in SQL

- ERD diagram creation

**Building the Database**

Step1: Launch and Connect to Oracle 11g with SQL+ from *AppsAnywhere* ***(As in Week 4)***

Step2: Create Database and add data from ANNEX A (*See at the end*)

**Task 1: Draw the ERD equivalent of the annexed commands**

* You can use Chen’s or Crow’s foot notation

**Task 2: Perform single Queries to retrieve the following data**

**Query 1**: Select the **Locations** and **Trip Dates** from the trips table with pretty printed titles of **Trip Location** and **Trip Date**

**Query 2**: Select the **First Names,** **Last Names** and **Birth Year** of students who were born after **1960** but before **1998**

**Query 3**: Select the **First Names, Last Names** and **Group Name** of students who belong to the group name ending in **Bunch** sorted ascendingly based on their **Last Names**.

**Query 4:** Select the **First Names** and **Last Names** of students who are approved to go on two trips

**Query 5**: Show the **Location, Group Names** and **total number** of Students that are approved to go on each trip sorted decreasingly based on location.

**Advanced:**

**Query 6**: Show the **Location, Group Names** and **total number** of Students that are approved to go on each trip sorted decreasingly based on location from the groups that have more students than the mean.

**ANNEX A**

DROP TABLE students;

DROP TABLE trip;

DROP TABLE groups;

DROP TABLE allocations;

CREATE TABLE students (

id NUMBER(5) PRIMARY KEY,

first\_name VARCHAR2(15) NOT NULL,

last\_name VARCHAR2(15) NOT NULL,

birth\_year NUMBER(4) NOT NULL,

group\_id NUMBER(5) NOT NULL);

CREATE TABLE trip (

id NUMBER(5) PRIMARY KEY,

location VARCHAR2(25) NOT NULL,

trip\_date DATE NOT NULL,

supervisor VARCHAR2(25) NOT NULL);

CREATE TABLE groups (

id NUMBER(5) PRIMARY KEY,

group\_name VARCHAR2(40) NOT NULL);

CREATE TABLE allocations (

id NUMBER(5) PRIMARY KEY,

student\_id NUMBER(5) NOT NULL,

trip\_id NUMBER(5) NOT NULL,

approved CHAR(1) NOT NULL);

INSERT INTO groups VALUES (1,'Funny Bunch');

INSERT INTO groups VALUES (2,'Whacky Company');

INSERT INTO groups VALUES (3,'Brady Bunch');

INSERT INTO groups VALUES (4,'Johns');

INSERT INTO students VALUES (1,'Nick','Fury',1968,1);

INSERT INTO students VALUES (2,'Shawn','Mendez',1971,2);

INSERT INTO students VALUES (3,'Robert','DeFaro',1973,1);

INSERT INTO students VALUES (4,'Duke','Cage',1975,1);

INSERT INTO students VALUES (5,'Robert','Plant',1953,2);

INSERT INTO students VALUES (6,'Bruce','Wayne',1989,2);

INSERT INTO students VALUES (7,'Martin','Freeman',1923,2);

INSERT INTO students VALUES (8,'Bill','Gates',1946,2);

INSERT INTO students VALUES (9,'Steve','Jobs',1978,3);

INSERT INTO students VALUES (10,'John','Neumann',1992,3);

INSERT INTO students VALUES (11,'Edsger','Dijkstra',1996,3);

INSERT INTO students VALUES (12,'Tom','Hanks',1980,3);

INSERT INTO students VALUES (13,'Mario','Mario',2001,4);

INSERT INTO students VALUES (14,'Williem','Dafoe',2003,4);

INSERT INTO students VALUES (15,'Tom','Riddle',2000,4);

INSERT INTO students VALUES (16,'Pen','Teller',1978,4);

INSERT INTO trip VALUES(1,'Hogwarts',TO\_DATE('17/12/2015', 'DD/MM/YYYY'),'Dumbledore');

INSERT INTO trip VALUES(2,'London',TO\_DATE('11/2/2017', 'DD/MM/YYYY'),'Luke');

INSERT INTO trip VALUES(3,'Klingon Empire',TO\_DATE('16/7/2016', 'DD/MM/YYYY'),'T Kuvma');

INSERT INTO trip VALUES(4,'Austria',TO\_DATE('8/8/2018', 'DD/MM/YYYY'),'Ski Instructor');

INSERT INTO allocations VALUES(1,1,1,'Y');

INSERT INTO allocations VALUES(2,1,2,'N');

INSERT INTO allocations VALUES(3,1,3,'Y');

INSERT INTO allocations VALUES(4,2,4,'N');

INSERT INTO allocations VALUES(5,2,1,'Y');

INSERT INTO allocations VALUES(6,2,2,'N');

INSERT INTO allocations VALUES(7,3,3,'Y');

INSERT INTO allocations VALUES(8,3,4,'N');

INSERT INTO allocations VALUES(9,3,1,'Y');

INSERT INTO allocations VALUES(10,4,2,'N');

INSERT INTO allocations VALUES(11,4,3,'Y');

INSERT INTO allocations VALUES(12,4,4,'N');

INSERT INTO allocations VALUES(13,5,1,'Y');

INSERT INTO allocations VALUES(14,5,2,'N');

INSERT INTO allocations VALUES(15,5,3,'Y');

INSERT INTO allocations VALUES(16,6,4,'N');

INSERT INTO allocations VALUES(17,6,1,'Y');

INSERT INTO allocations VALUES(18,6,2,'N');

INSERT INTO allocations VALUES(19,7,3,'Y');

INSERT INTO allocations VALUES(20,7,4,'N');

INSERT INTO allocations VALUES(21,7,1,'y');

INSERT INTO allocations VALUES(22,8,2,'N');

INSERT INTO allocations VALUES(23,8,3,'Y');

INSERT INTO allocations VALUES(24,8,4,'N');

INSERT INTO allocations VALUES(25,9,1,'Y');

INSERT INTO allocations VALUES(26,9,2,'N');

INSERT INTO allocations VALUES(27,9,3,'Y');

INSERT INTO allocations VALUES(28,10,4,'N');

INSERT INTO allocations VALUES(29,10,1,'Y');

INSERT INTO allocations VALUES(30,10,2,'N');

INSERT INTO allocations VALUES(31,11,3,'Y');

INSERT INTO allocations VALUES(32,11,4,'N');

INSERT INTO allocations VALUES(33,11,1,'Y');

INSERT INTO allocations VALUES(34,12,2,'N');

INSERT INTO allocations VALUES(35,12,3,'Y');

INSERT INTO allocations VALUES(36,12,4,'N');

INSERT INTO allocations VALUES(37,12,1,'Y');

INSERT INTO allocations VALUES(38,12,2,'N');

INSERT INTO allocations VALUES(39,13,3,'Y');

INSERT INTO allocations VALUES(40,13,4,'N');

INSERT INTO allocations VALUES(41,13,1,'y');

INSERT INTO allocations VALUES(42,14,2,'N');

INSERT INTO allocations VALUES(43,14,3,'Y');

INSERT INTO allocations VALUES(44,14,4,'N');

INSERT INTO allocations VALUES(45,15,1,'Y');

INSERT INTO allocations VALUES(46,15,2,'N');

INSERT INTO allocations VALUES(47,15,3,'Y');

INSERT INTO allocations VALUES(48,16,4,'N');

INSERT INTO allocations VALUES(49,16,1,'Y');

INSERT INTO allocations VALUES(50,16,2,'N');

/end/