**BYGB/ISGB 7973: ASSIGNMENT 2**

**DATABASE MANAGEMENT**

**SQL Assignment**

**DUE: September 24**

In this assignment, we will continue with building SQL queries for data retrieval using SQL Workshop in Oracle Apex.

For this assignment, you can use the Apex workspace that you used in Assignment 1 or you can request a new workspace. If you use the second option, provide a name for the workspace different from the previous one. I chose the name Class\_Example2 (Oracle does allow you to request multiple workspaces.)

**Part 1**

1. Copy the script below to create and populate tables corresponding to Figure 5-12 in the text book. The description of the application is given on page 246 just above question 5-46. Note that **Group** is a reserved word in SQL. Therefore, I have changed the name of the second column in table STUDENT to Grp

In addition to creating and populating tables, the script has incorporated uniqueness constrains and referential integrity constrains:

* There can be only one row in Table TUTOR for a given value of TutorID
* There can be only one row in table STUDENT for a given value of StudentID
* TutorID in MATCH\_HISTORY must refer to an existing TutorID in TUTOR
* StudentID in MATCH\_HISTORY must refer to an existing StudentID in STUDENT

1. Give script a name and then click on Run. The script parser will check for any errors in the script. If any errors are found, fix them and click on button Run. Once there is no error, click on button Run Now.

Check if all the steps in the script were executed successfully.

Go to object browser and check that all the tables, including constraints, have been defined and populated.

1. Work through questions 5-46 through 5-56 in the textbook (page 246). Submit your answer as a MSWord document that contains SQL query and the resulting table for each question.
2. Delete the record from table TUTOR with TutorID=104. Examine data in table MATCH\_HISTORY. You will find that all records for TutorID =104 have also been dropped. We have therefore lost the history about tutoring students with Student ID 6 and 7. Why is that the case? Is there a way for us to prevent deleting records in table TUTOR or table STUDENT while there are matching records in MATCH\_HISTORY?

**Script to create tables, constrains and insert data for figure 5.12**

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-- DDL for Table STUDENT

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CREATE TABLE STUDENT

( StudentID CHAR(5 BYTE) NOT NULL,

Grp CHAR(2 BYTE),

Read CHAR(5 BYTE)

);

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-- DDL for Table TUTOR

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CREATE TABLE TUTOR

( TutorID CHAR(5 BYTE),

CertDate DATE,

Status CHAR(10 BYTE)

);

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-- DDL for Table MATCH\_HISTORY

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CREATE TABLE MATCH\_HISTORY

( MatchID CHAR(2 BYTE) NOT NULL,

TutorID CHAR(5 BYTE),

StudentID CHAR(5 BYTE),

StartDate DATE,

EndDate DATE

);

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-- DDL for Creating Unique Indexes for each table

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ALTER TABLE TUTOR ADD CONSTRAINT TUTOR\_PK PRIMARY KEY (TutorID);

ALTER TABLE STUDENT ADD CONSTRAINT STUDENT\_PK PRIMARY KEY (StudentID);

ALTER TABLE MATCH\_HISTORY ADD CONSTRAINT MATCH\_HISTORY\_PK PRIMARY KEY (MatchID);

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-- Ref Constraints for Table MATCH\_HISTORY

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ALTER TABLE MATCH\_HISTORY ADD CONSTRAINT MATCH\_HISTORY\_FK1 FOREIGN KEY (TutorID) REFERENCES TUTOR (TutorID) ON DELETE CASCADE;

ALTER TABLE MATCH\_HISTORY ADD CONSTRAINT MATCH\_HISTORY\_FK2 FOREIGN KEY (StudentID) REFERENCES STUDENT (StudentID) ON DELETE CASCADE;

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-- DML for data entry using Insert command

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Insert into STUDENT (StudentID,Grp,Read) values ('3000', '3','2.3');

Insert into STUDENT (StudentID,Grp,Read) values ('3001', '2','5.6');

Insert into STUDENT (StudentID,Grp,Read) values ('3002', '3','1.3');

Insert into STUDENT (StudentID,Grp,Read) values ('3003', '1','3.3');

Insert into STUDENT (StudentID,Grp,Read) values ('3004', '2','2.7');

Insert into STUDENT (StudentID,Grp,Read) values ('3005', '4','4.8');

Insert into STUDENT (StudentID,Grp,Read) values ('3006', '3','7.8');

Insert into STUDENT (StudentID,Grp,Read) values ('3007', '4','1.5');

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Insert into TUTOR (TutorID,CertDate,Status) values ('100',to\_date('05-JAN-18','DD-MON-RR'),'Active');

Insert into TUTOR (TutorID,CertDate,Status) values ('101',to\_date('05-JAN-18','DD-MON-RR'),'Temp Stop');

Insert into TUTOR (TutorID,CertDate,Status) values ('102',to\_date('05-JAN-18','DD-MON-RR'),'Dropped');

Insert into TUTOR (TutorID,CertDate,Status) values ('103',to\_date('22-MAY-18','DD-MON-RR'),'Active');

Insert into TUTOR (TutorID,CertDate,Status) values ('104',to\_date('22-MAY-18','DD-MON-RR'),'Active');

Insert into TUTOR (TutorID,CertDate,Status) values ('105',to\_date('22-MAY-18','DD-MON-RR'),'Temp Stop');

Insert into TUTOR (TutorID,CertDate,Status) values ('106',to\_date('22-MAY-18','DD-MON-RR'),'Active');

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Insert into MATCH\_HISTORY (MatchID,TutorID,StudentID,StartDate,EndDate) values ('1','100','3000',to\_date('10-JAN-18','DD-MON-RR'),null);

Insert into MATCH\_HISTORY (MatchID,TutorID,StudentID,StartDate,EndDate) values ('2','101','3001',to\_date('15-JAN-18','DD-MON-RR'),to\_date('15-MAY-18','DD-MON-RR'));

Insert into MATCH\_HISTORY (MatchID,TutorID,StudentID,StartDate,EndDate) values ('3','102','3002',to\_date('10-FEB-18','DD-MON-RR'),to\_date('01-MAR-18','DD-MON-RR'));

Insert into MATCH\_HISTORY (MatchID,TutorID,StudentID,StartDate,EndDate) values ('4','106','3003',to\_date('28-MAY-18','DD-MON-RR'),null);

Insert into MATCH\_HISTORY (MatchID,TutorID,StudentID,StartDate,EndDate) values ('5','103','3004',to\_date('01-JUN-18','DD-MON-RR'),to\_date('15-JUN-18','DD-MON-RR'));

Insert into MATCH\_HISTORY (MatchID,TutorID,StudentID,StartDate,EndDate) values ('6','104','3005',to\_date('01-JUN-18','DD-MON-RR'),to\_date('28-JUN-18','DD-MON-RR'));

Insert into MATCH\_HISTORY (MatchID,TutorID,StudentID,StartDate,EndDate) values ('7','104','3006',to\_date('01-JUN-18','DD-MON-RR'),null);

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Commit;