Tutorial 2
Student Enrollment Case Study

Description

This tutorial will use the Student Case Study consisting of STUDENT2, SUBJECT2, OFFERING2 and ENROLLMENT2 tables.

The STUDENT2 table contains the personal details of students. The SUBJECT2 table keeps all the records of the available subjects. However, a single subject may have many offerings. This means that the same subject may be offered several times in a year as well as on different modes and campuses. Therefore, the OFFERING2 table stores the information of subjects being offered in particular semesters, etc. Basically, after a student selects a subject she/he is interested, she/he then needs to choose which semester or which campus she/he wants to take that subject. Once this is done, the details are stored in the ENROLLMENT2 table that will also store the Student ID and Offering ID as well as the score obtained by the student at the end of the semester.

Figure 1 shows an E/R diagram with four entities as well as their associated attributes. The sample data is also shown in Figure 2 below. Your first task is to create the four tables, and populate them with some records as shown Figure 2.

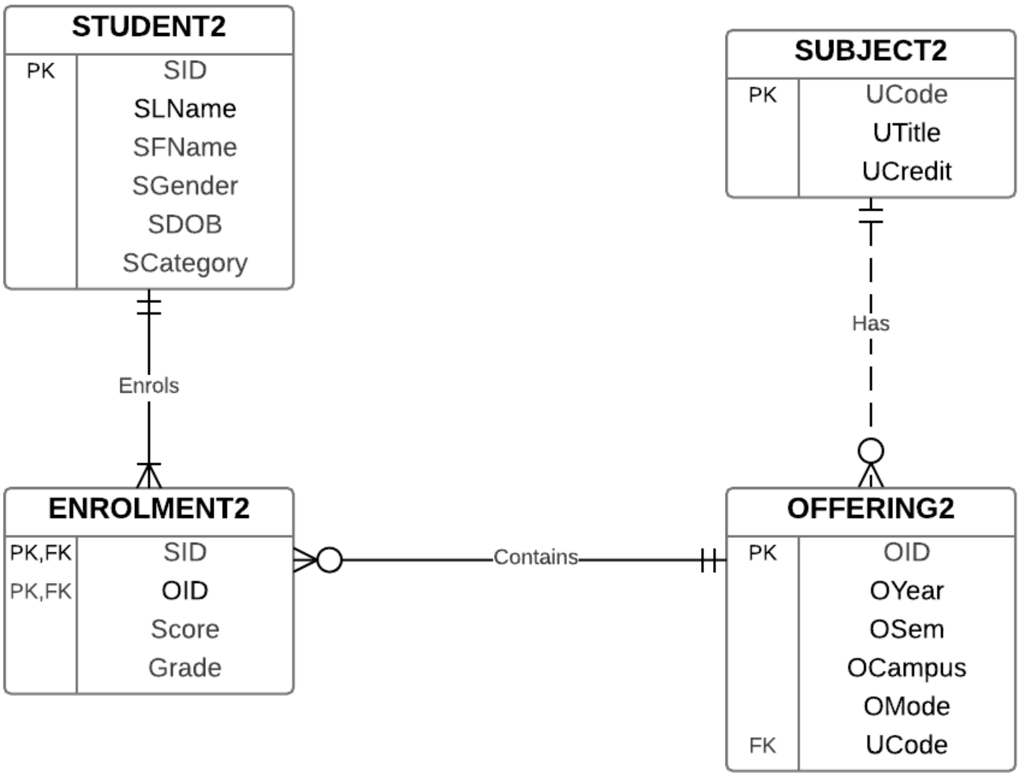

Figure 1: ER-Diagram for Student Case Study

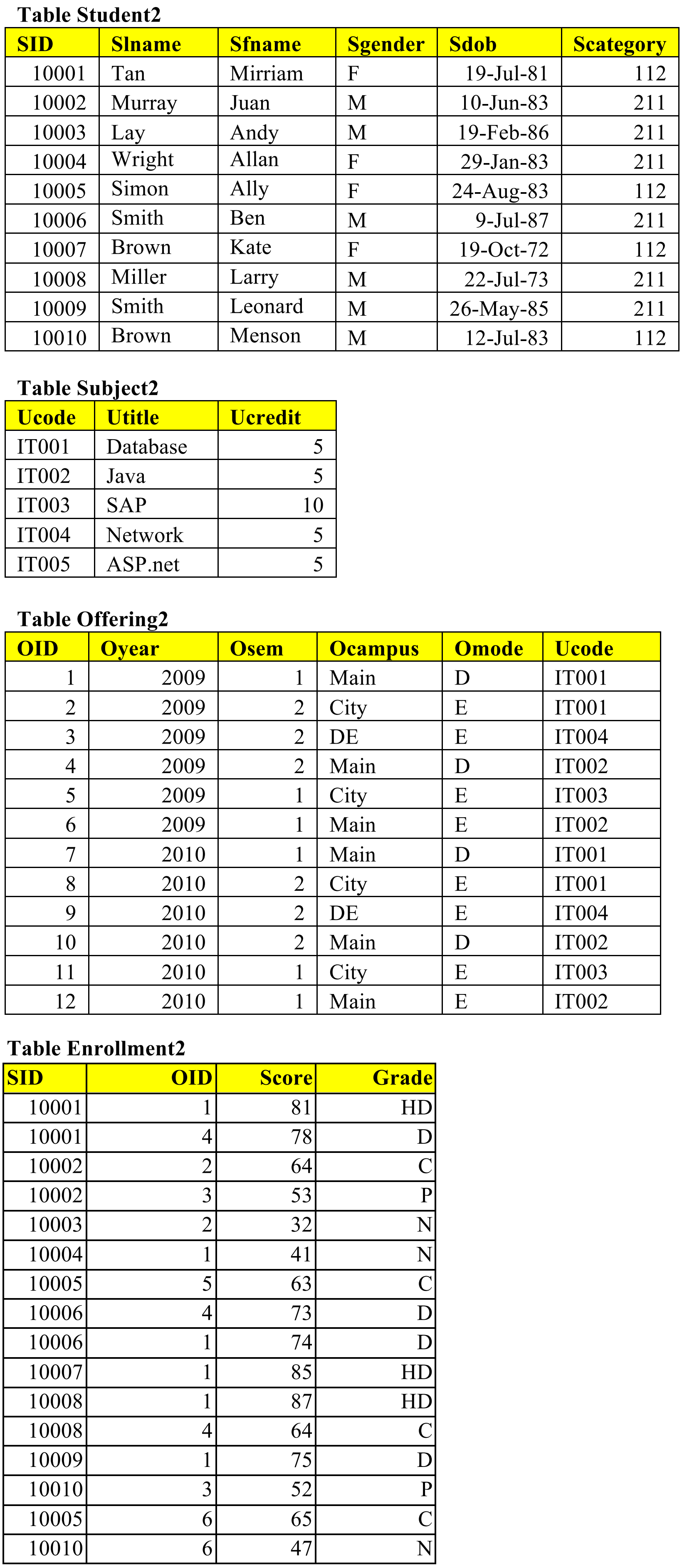

Table Student2

SID	Slname	Sfname	Sgender	Sdob	Scategory
10001	Tan	Mirriam	F	19-Jul-81	112
10002	Murray	Juan	M	10-Jun-83	211
10003	Lay	Andy	M	19-Feb-86	211
10004	Wright	Allan	F	29-Jan-83	211
10005	Simon	Ally	F	24-Aug-83	112
10006	Smith	Ben	M	9-Jul-87	211
10007	Brown	Kate	F	19-Oct-72	112
10008	Miller	Larry	M	22-Jul-73	211
10009	Smith	Leonard	M	26-May-85	211
10010	Brown	Menson	M	12-Jul-83	112

Table Subject2

Ucode	Utitle	Ucredit
IT001	Database	5
IT002	Java	5
IT003	SAP	10
IT004	Network	5
IT005	ASP.net	5

Table Offering2

OID	Oyear	Osem	Ocampus	Omode	Ucode
1	2009	1	Main	D	IT001
2	2009	2	City	E	IT001
3	2009	2	DE	E	IT004
4	2009	2	Main	D	IT002
5	2009	1	City	E	IT003
6	2009	1	Main	E	IT002
7	2010	1	Main	D	IT001
8	2010	2	City	E	IT001
9	2010	2	DE	E	IT004
10	2010	2	Main	D	IT002
11	2010	1	City	E	IT003
12	2010	1	Main	E	IT002

Table Enrollment2

SID	OID	Score	Grade
10001	1	81	HD
10001	4	78	D
10002	2	64	C
10002	3	53	P
10003	2	32	N
10004	1	41	N
10005	5	63	C
10006	4	73	D
10006	1	74	D
10007	1	85	HD
10008	1	87	HD
10008	4	64	C
10009	1	75	D
10010	3	52	P
10005	6	65	C
10010	6	47	N

Figure 2: Tables and Records for the Student Enrollment Case Study

Tasks

a) Create table SUBJECT2 and insert the above 5 records.

b) Table STUDENT2 has been created in the `dtaniar` account. Several records have been inserted to this table. You can now import table STUDENT2 to your account using the following SQL statement:

```
Create Table STUDENT2
As Select *
From dtaniar.STUDENT2;
```

c) Describe the structure of table STUDENT2.

d) Display all records from table STUDENT2.

e) Insert the missing records to table STUDENT2.

f) Import Tables OFFERING2 and ENROLLMENT2 from `dtaniar` account. The method is similar to question (*b*) above.

g) Using SQL to answer the questions:
1) How many students enrolled in the Database unit offered in Main campus?
2) What is the total score of students taking the Database unit in Main campus?
3) How many students enrolled in the Java unit offered in Semester 2, 2009?
4) What is the total score of students taking the Java unit in Semester 2, 2009?
5) How many students received HD in the SAP unit offered in Semester 1, 2009?

Implementing the star schema:

h) Draw a star schema based on the above case study? First identify the dimensions (and their attributes), and the fact measurements for the fact table?

i) Use the SQL command to create and populate the dimension tables.

j) Use the SQL command to create the fact table.

k) Use the star schema that you have created, display the average score of each unit offered in 2009.

l) Use the star schema that you have created, display the average score of each unit offered in main campus.

m) Use the star schema that you have created, display the average score of Database unit with the grade N.

THE END