

Star Schema Assignment

University Scenario

6/11/2015

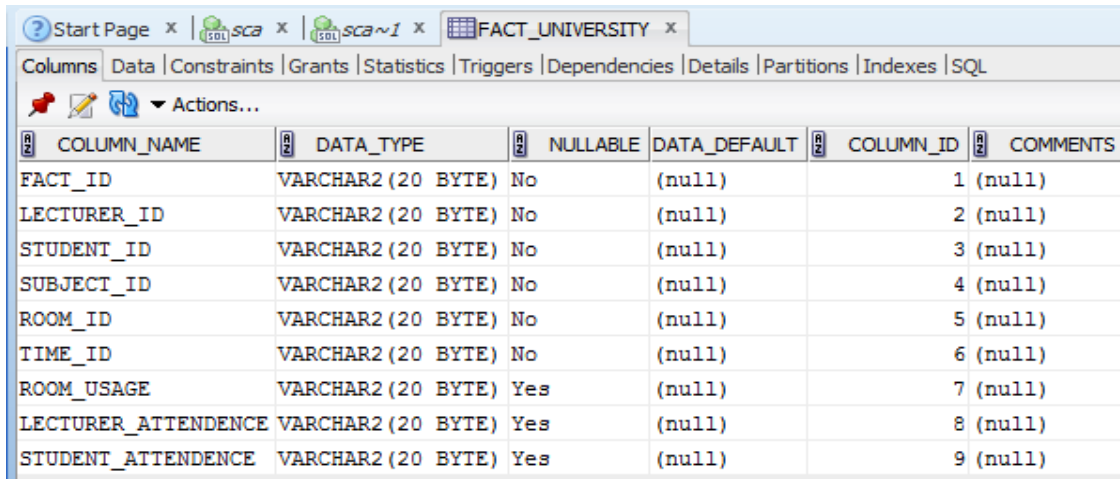
CPUT

Shannon Scholtz

Student Number: 212125583

Database Fields of University Scenario Star Schema:

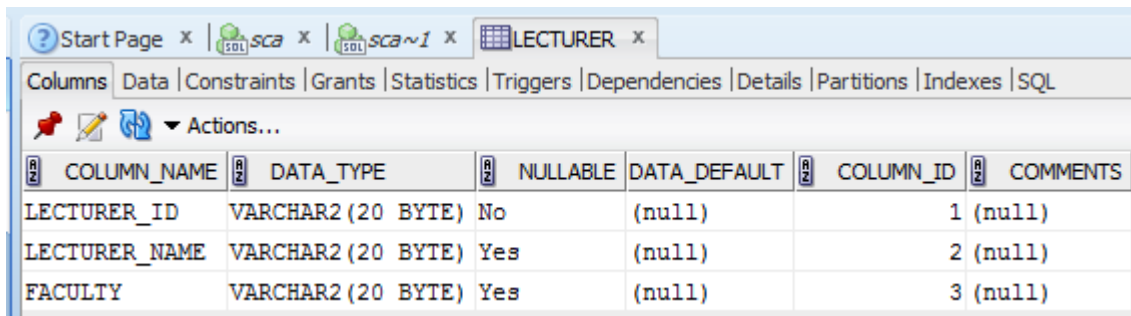
FACT Table: Fact University



The screenshot shows the SQL Developer interface with the 'FACT_UNIVERSITY' table selected. The table structure is displayed in a grid format with columns: COLUMN_NAME, DATA_TYPE, NULLABLE, DATA_DEFAULT, COLUMN_ID, and COMMENTS. The table contains 9 columns.

| COLUMN_NAME | DATA_TYPE | NULLABLE | DATA_DEFAULT | COLUMN_ID | COMMENTS |
|---------------------|--------------------|----------|--------------|-----------|----------|
| FACT_ID | VARCHAR2 (20 BYTE) | No | (null) | 1 | (null) |
| LECTURER_ID | VARCHAR2 (20 BYTE) | No | (null) | 2 | (null) |
| STUDENT_ID | VARCHAR2 (20 BYTE) | No | (null) | 3 | (null) |
| SUBJECT_ID | VARCHAR2 (20 BYTE) | No | (null) | 4 | (null) |
| ROOM_ID | VARCHAR2 (20 BYTE) | No | (null) | 5 | (null) |
| TIME_ID | VARCHAR2 (20 BYTE) | No | (null) | 6 | (null) |
| ROOM_USAGE | VARCHAR2 (20 BYTE) | Yes | (null) | 7 | (null) |
| LECTURER_ATTENDANCE | VARCHAR2 (20 BYTE) | Yes | (null) | 8 | (null) |
| STUDENT_ATTENDANCE | VARCHAR2 (20 BYTE) | Yes | (null) | 9 | (null) |

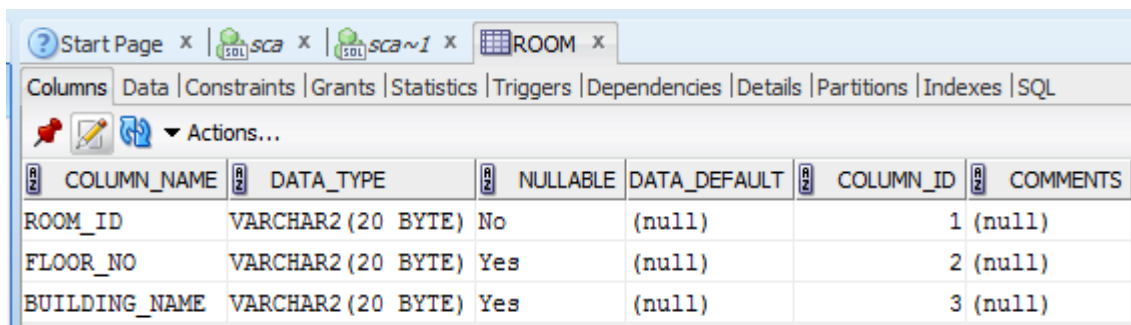
Lecturer Table: Lecturer



The screenshot shows the SQL Developer interface with the 'LECTURER' table selected. The table structure is displayed in a grid format with columns: COLUMN_NAME, DATA_TYPE, NULLABLE, DATA_DEFAULT, COLUMN_ID, and COMMENTS. The table contains 3 columns.

| COLUMN_NAME | DATA_TYPE | NULLABLE | DATA_DEFAULT | COLUMN_ID | COMMENTS |
|---------------|--------------------|----------|--------------|-----------|----------|
| LECTURER_ID | VARCHAR2 (20 BYTE) | No | (null) | 1 | (null) |
| LECTURER_NAME | VARCHAR2 (20 BYTE) | Yes | (null) | 2 | (null) |
| FACULTY | VARCHAR2 (20 BYTE) | Yes | (null) | 3 | (null) |

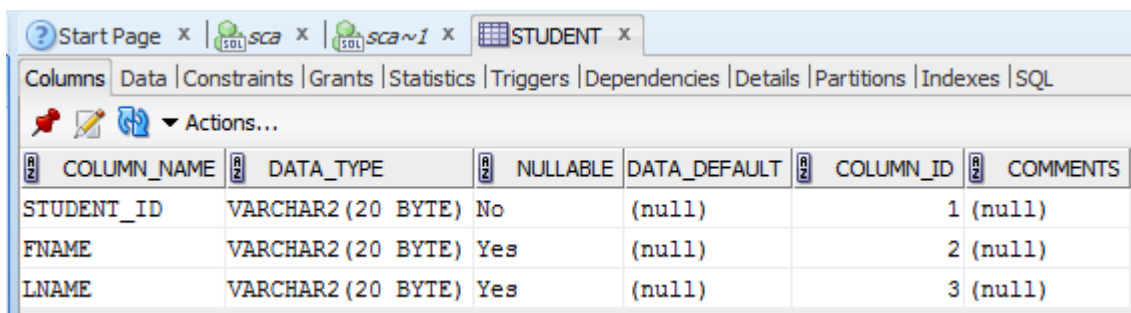
Room Table: Room



The screenshot shows the SQL Developer interface with the 'ROOM' table selected. The table structure is displayed in a grid format with columns: COLUMN_NAME, DATA_TYPE, NULLABLE, DATA_DEFAULT, COLUMN_ID, and COMMENTS. The table contains 3 columns.

| COLUMN_NAME | DATA_TYPE | NULLABLE | DATA_DEFAULT | COLUMN_ID | COMMENTS |
|---------------|--------------------|----------|--------------|-----------|----------|
| ROOM_ID | VARCHAR2 (20 BYTE) | No | (null) | 1 | (null) |
| FLOOR_NO | VARCHAR2 (20 BYTE) | Yes | (null) | 2 | (null) |
| BUILDING_NAME | VARCHAR2 (20 BYTE) | Yes | (null) | 3 | (null) |

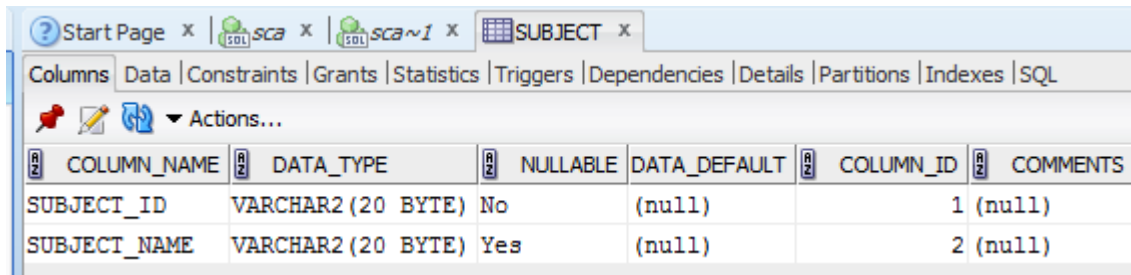
Student table: Student



The screenshot shows the SQL Developer interface with the 'STUDENT' table selected. The table structure is displayed in a grid format with columns: COLUMN_NAME, DATA_TYPE, NULLABLE, DATA_DEFAULT, COLUMN_ID, and COMMENTS. The table contains 3 columns.

| COLUMN_NAME | DATA_TYPE | NULLABLE | DATA_DEFAULT | COLUMN_ID | COMMENTS |
|-------------|--------------------|----------|--------------|-----------|----------|
| STUDENT_ID | VARCHAR2 (20 BYTE) | No | (null) | 1 | (null) |
| FNAME | VARCHAR2 (20 BYTE) | Yes | (null) | 2 | (null) |
| LNAME | VARCHAR2 (20 BYTE) | Yes | (null) | 3 | (null) |

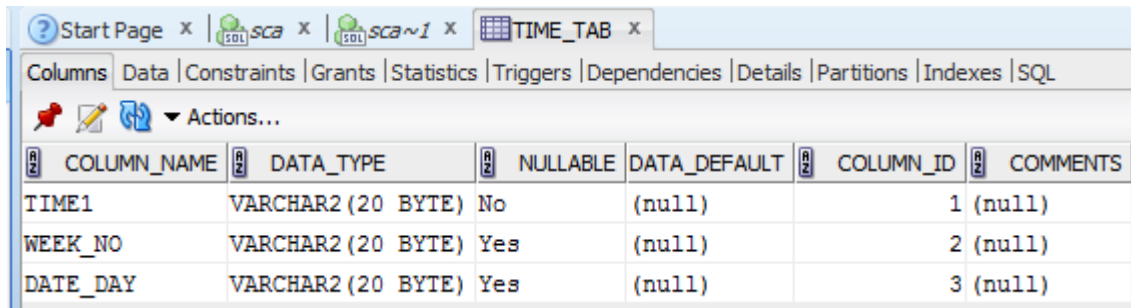
Subject Table: Subject



The screenshot shows the SQL Developer interface with the 'SUBJECT' table selected. The 'Columns' tab is active, displaying the table's structure. The table has two columns: 'SUBJECT_ID' and 'SUBJECT_NAME'. Both are of type 'VARCHAR2(20 BYTE)'. 'SUBJECT_ID' is not nullable and has a default value of '(null)'. 'SUBJECT_NAME' is nullable and also has a default value of '(null)'. The 'COLUMN_ID' for 'SUBJECT_ID' is 1 and for 'SUBJECT_NAME' is 2. Both columns have no comments.

| COLUMN_NAME | DATA_TYPE | NULLABLE | DATA_DEFAULT | COLUMN_ID | COMMENTS |
|--------------|-------------------|----------|--------------|-----------|----------|
| SUBJECT_ID | VARCHAR2(20 BYTE) | No | (null) | 1 | (null) |
| SUBJECT_NAME | VARCHAR2(20 BYTE) | Yes | (null) | 2 | (null) |

Time Table: Time tab



The screenshot shows the SQL Developer interface with the 'TIME_TAB' table selected. The 'Columns' tab is active, displaying the table's structure. The table has three columns: 'TIME1', 'WEEK_NO', and 'DATE_DAY'. All three are of type 'VARCHAR2(20 BYTE)'. 'TIME1' is not nullable and has a default value of '(null)'. 'WEEK_NO' and 'DATE_DAY' are nullable and also have default values of '(null)'. The 'COLUMN_ID' for 'TIME1' is 1, for 'WEEK_NO' is 2, and for 'DATE_DAY' is 3. All columns have no comments.

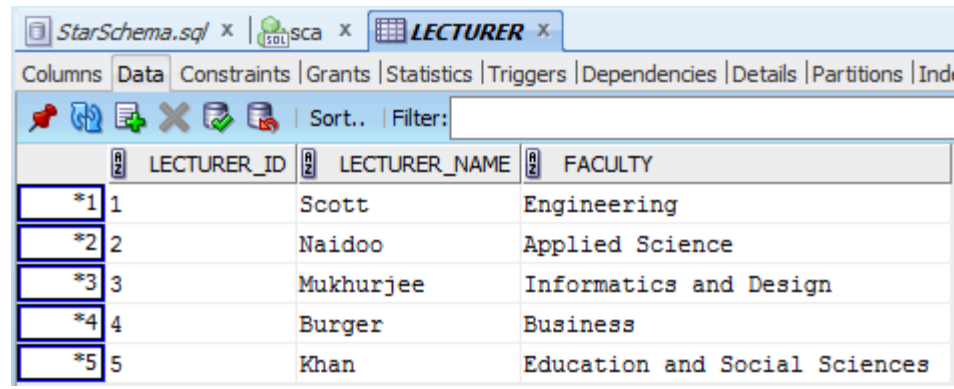
| COLUMN_NAME | DATA_TYPE | NULLABLE | DATA_DEFAULT | COLUMN_ID | COMMENTS |
|-------------|-------------------|----------|--------------|-----------|----------|
| TIME1 | VARCHAR2(20 BYTE) | No | (null) | 1 | (null) |
| WEEK_NO | VARCHAR2(20 BYTE) | Yes | (null) | 2 | (null) |
| DATE_DAY | VARCHAR2(20 BYTE) | Yes | (null) | 3 | (null) |

Test Data:

Fact University

| Start Page x Untitled.sql x FACT_UNIVERSITY x | | | | | |
|---|------------|-------------|------------|---------|---------|
| Columns Data Constraints Grants Statistics Triggers Dependencies Details Partitions Indexes SQL | | | | | |
| Sort.. Filter: | | | | | |
| | STUDENT_ID | LECTURER_ID | SUBJECT_ID | ROOM_ID | TIME_ID |
| 1 | 23 | 3 | ISY3B00S | 3.2 | 10:00 |
| 2 | 21 | 1 | ISY3B00S | 1.2 | 08:00 |
| 3 | 22 | 2 | ISY3B00S | 2.2 | 09:00 |
| 4 | 24 | 4 | ISY3A00S | 1.2 | 11:00 |
| 5 | 25 | 5 | ISY3A00S | 2.2 | 12:00 |
| 6 | 21 | 1 | ISY3B00S | 3.2 | 09:00 |
| 7 | 21 | 2 | ISY3A00S | 1.2 | 08:00 |
| 8 | 21 | 3 | ISY3B00S | 2.2 | 11:00 |
| 9 | 22 | 5 | ISY3A00S | 1.2 | 09:00 |
| 10 | 23 | 4 | ISY3B00S | 3.2 | 08:00 |
| 11 | 24 | 1 | ISY3A00S | 1.2 | 11:00 |
| 12 | 25 | 2 | ISY3B00S | 2.2 | 08:00 |
| 13 | 21 | 3 | ISY3A00S | 3.2 | 09:00 |
| 14 | 22 | 4 | ISY3B00S | 1.2 | 08:00 |
| 15 | 24 | 5 | ISY3A00S | 3.2 | 11:00 |
| 16 | 24 | 5 | ISY3B00S | 1.2 | 09:00 |
| 17 | 25 | 4 | ISY3A00S | 3.2 | 08:00 |
| 18 | 21 | 3 | ISY3A00S | 2.2 | 09:00 |
| 19 | 22 | 2 | ISY3B00S | 1.2 | 08:00 |
| 20 | 23 | 1 | ISY3A00S | 2.2 | 11:00 |
| 21 | 24 | 1 | ISY3B00S | 1.2 | 08:00 |
| 22 | 25 | 2 | ISY3A00S | 2.2 | 11:00 |
| 23 | 21 | 3 | ISY3B00S | 3.2 | 11:00 |
| 24 | 22 | 4 | ISY3A00S | 2.2 | 08:00 |
| 25 | 23 | 5 | ISY3A00S | 3.2 | 11:00 |
| 26 | 24 | 5 | ISY3A00S | 2.2 | 08:00 |
| 27 | 25 | 4 | ISY3A00S | 1.2 | 09:00 |
| 28 | 22 | 2 | ISY3B00S | 2.2 | 11:00 |
| 29 | 21 | 3 | ISY3A00S | 1.2 | 09:00 |
| 30 | 22 | 1 | ISY3B00S | 3.2 | 11:00 |
| 31 | 22 | 3 | ISY3A00S | 1.2 | 09:00 |

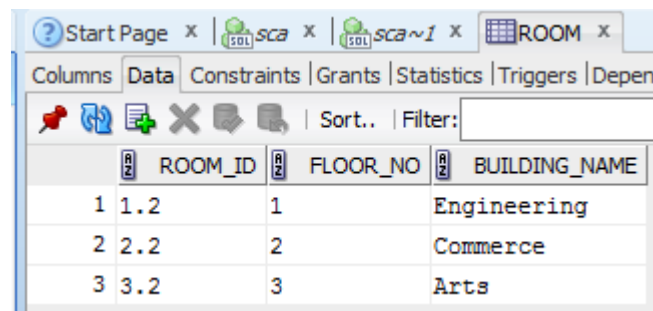
Lecturer Table: Lecturer



The screenshot shows the SQL Developer interface with the 'LECTURER' table selected. The 'Data' tab is active, displaying a table with three columns: LECTURER_ID, LECTURER_NAME, and FACULTY. The data is as follows:

| | LECTURER_ID | LECTURER_NAME | FACULTY |
|----|-------------|---------------|-------------------------------|
| *1 | 1 | Scott | Engineering |
| *2 | 2 | Naidoo | Applied Science |
| *3 | 3 | Mukhurjee | Informatics and Design |
| *4 | 4 | Burger | Business |
| *5 | 5 | Khan | Education and Social Sciences |

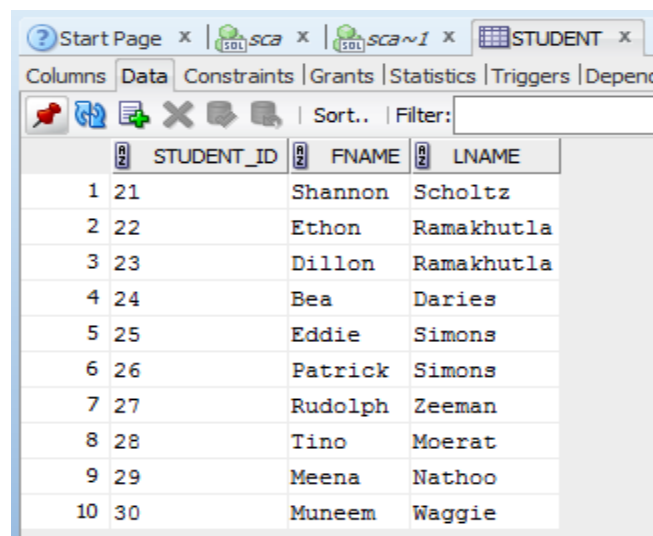
Room Table: Room



The screenshot shows the SQL Developer interface with the 'ROOM' table selected. The 'Data' tab is active, displaying a table with three columns: ROOM_ID, FLOOR_NO, and BUILDING_NAME. The data is as follows:

| | ROOM_ID | FLOOR_NO | BUILDING_NAME |
|---|---------|----------|---------------|
| 1 | 1.2 | 1 | Engineering |
| 2 | 2.2 | 2 | Commerce |
| 3 | 3.2 | 3 | Arts |

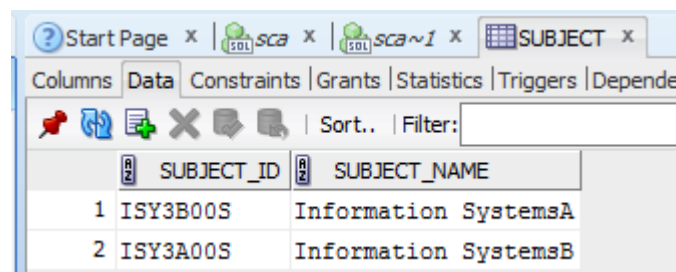
Student table: Student



The screenshot shows the SQL Developer interface with the 'STUDENT' table selected. The 'Data' tab is active, displaying a table with four columns: STUDENT_ID, FNAME, and LNAME. The data is as follows:

| | STUDENT_ID | FNAME | LNAME |
|----|------------|---------|------------|
| 1 | 21 | Shannon | Scholtz |
| 2 | 22 | Ethon | Ramakhutla |
| 3 | 23 | Dillon | Ramakhutla |
| 4 | 24 | Bea | Daries |
| 5 | 25 | Eddie | Simons |
| 6 | 26 | Patrick | Simons |
| 7 | 27 | Rudolph | Zeeman |
| 8 | 28 | Tino | Moerat |
| 9 | 29 | Meena | Nathoo |
| 10 | 30 | Muneem | Waggie |

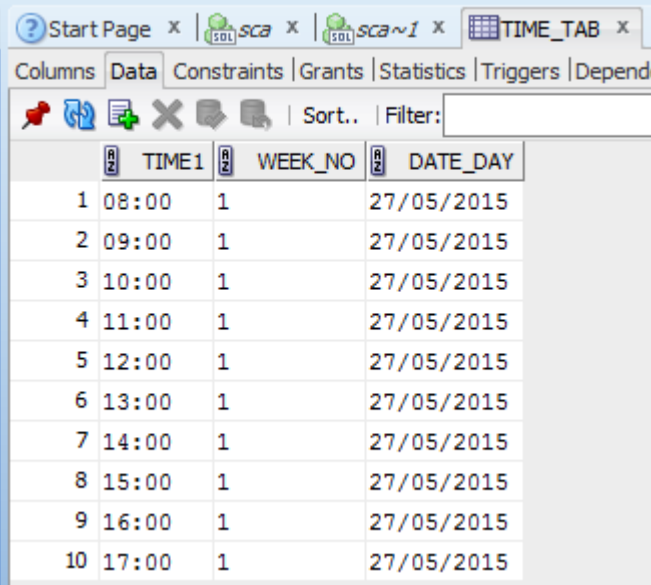
Subject Table: Subject



The screenshot shows the SQL Developer interface with the 'SUBJECT' table selected. The 'Data' tab is active, displaying a table with two columns: SUBJECT_ID and SUBJECT_NAME. The data is as follows:

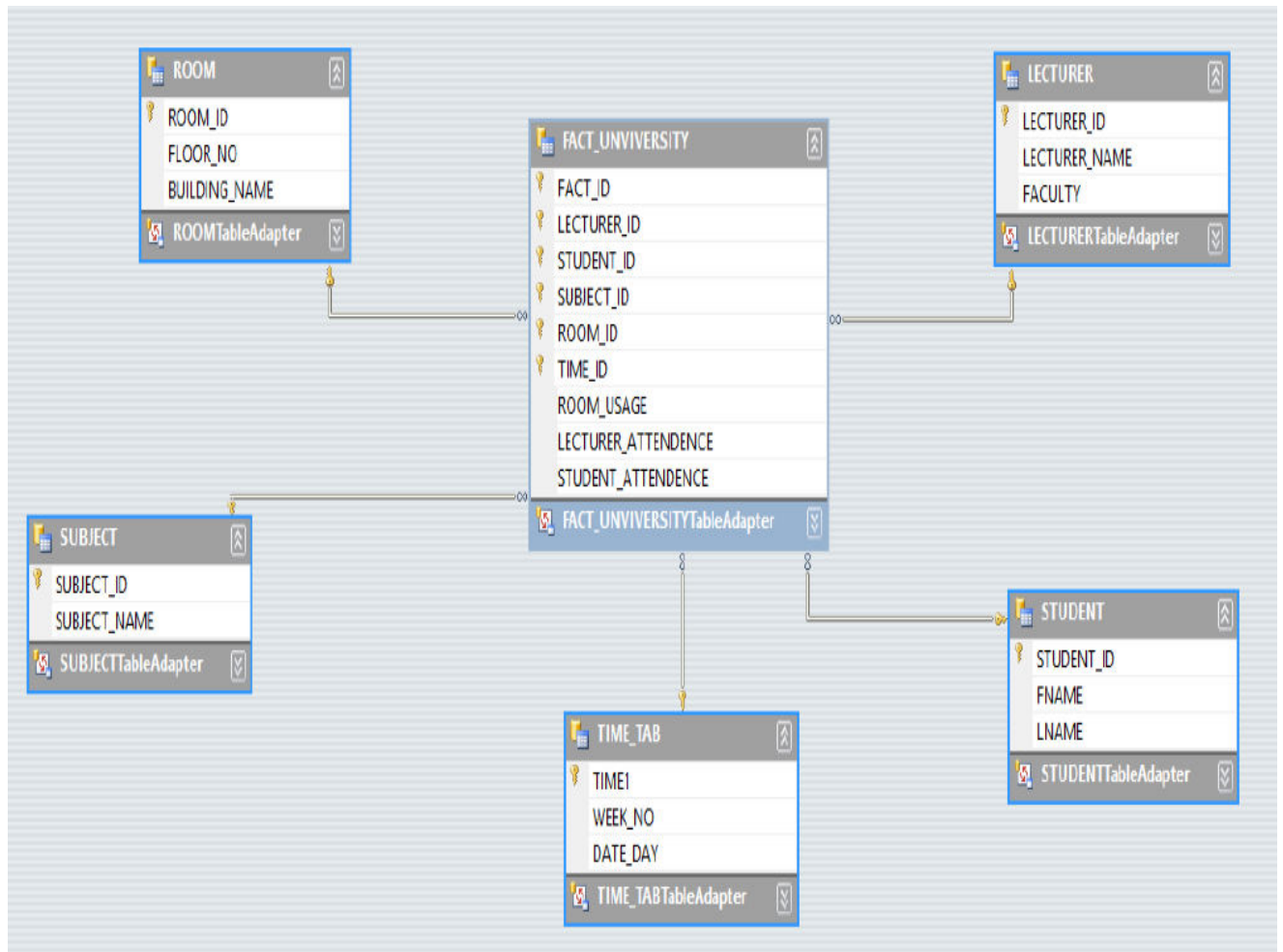
| | SUBJECT_ID | SUBJECT_NAME |
|---|------------|----------------------|
| 1 | ISY3B00S | Information SystemsA |
| 2 | ISY3A00S | Information SystemsB |

Time Table: Time tab



| | TIME1 | WEEK_NO | DATE_DAY |
|----|-------|---------|------------|
| 1 | 08:00 | 1 | 27/05/2015 |
| 2 | 09:00 | 1 | 27/05/2015 |
| 3 | 10:00 | 1 | 27/05/2015 |
| 4 | 11:00 | 1 | 27/05/2015 |
| 5 | 12:00 | 1 | 27/05/2015 |
| 6 | 13:00 | 1 | 27/05/2015 |
| 7 | 14:00 | 1 | 27/05/2015 |
| 8 | 15:00 | 1 | 27/05/2015 |
| 9 | 16:00 | 1 | 27/05/2015 |
| 10 | 17:00 | 1 | 27/05/2015 |

Star Schema:



Reports:

Percentage of room usage

Room ID: 1.2

Lecturer ID: 1

Lecturer ID: 4

Lecturer ID: 2

Lecturer ID: 5

Lecturer ID: 1

Lecturer ID: 4

Lecturer ID: 5

Lecturer ID: 2

Lecturer ID: 1

Lecturer ID: 4

Lecturer ID: 3

Lecturer ID: 3

Percentage:38%

Room ID: 2.2

Lecturer ID: 2

Lecturer ID: 5

Lecturer ID: 3

Lecturer ID: 2

Lecturer ID: 3

Lecturer ID: 1

Lecturer ID: 2

Lecturer ID: 4

Lecturer ID: 5

Lecturer ID: 2

Percentage: 32%

Room ID: 3.2

Lecturer ID: 3

Lecturer ID: 1

Lecturer ID: 4

Lecturer ID: 3

Lecturer ID: 5

Lecturer ID: 4

Lecturer ID: 3

Lecturer ID: 5

Lecturer ID: 1

Percentage: 29%

Total Number Of Classes Timetabled For The Semester

ISY3A00S =17

ISY3B00S =14

Percentage Of Attendance Of Students

ISY3A00S= 54%

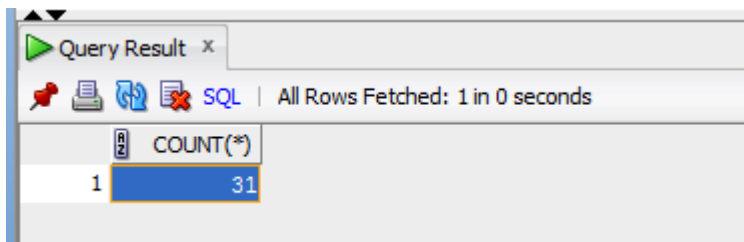
ISY3B00S= 45%

Percentage Of Attendance Of Lecturers

ISY3A00S=54%

ISY3B00S=45%

Total Number Of Times The Room Has Been Used:

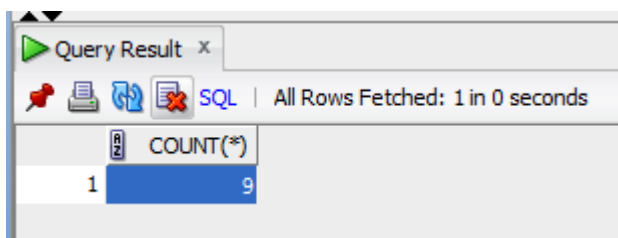


Query Result x

SQL | All Rows Fetched: 1 in 0 seconds

| | COUNT(*) |
|---|----------|
| 1 | 31 |

Students And Lectures Make Use of Room 3.2

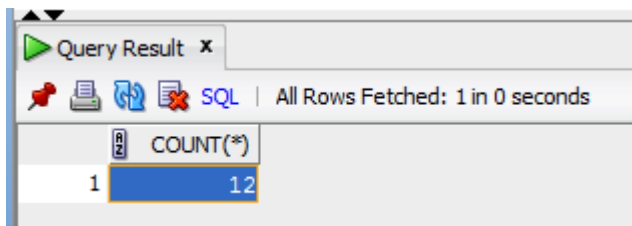


Query Result x

SQL | All Rows Fetched: 1 in 0 seconds

| | COUNT(*) |
|---|----------|
| 1 | 9 |

Students And Lectures Make Use Room 1.2

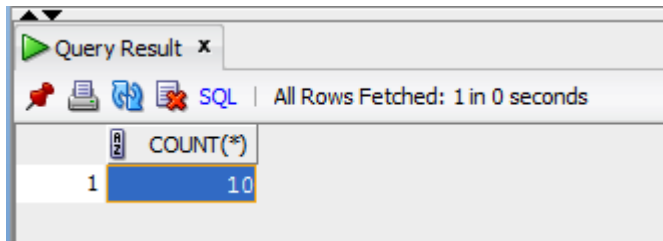


Query Result x

SQL | All Rows Fetched: 1 in 0 seconds

| | COUNT(*) |
|---|----------|
| 1 | 12 |

Students And Lectures Make Use Room 2.2

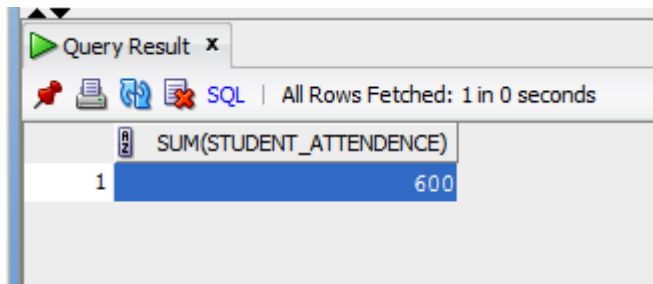


Query Result x

SQL | All Rows Fetched: 1 in 0 seconds

| | COUNT(*) |
|---|----------|
| 1 | 10 |

Number Of Times All Students Attended ISY3B00S Over The Semester

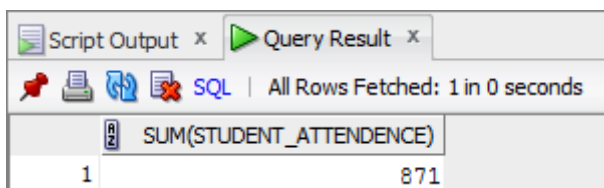


Query Result x

SQL | All Rows Fetched: 1 in 0 seconds

| | SUM(STUDENT_ATTENDENCE) |
|---|-------------------------|
| 1 | 600 |

Number Of Times All Students Attended ISY3A00S Over The Semester



Script Output x Query Result x

SQL | All Rows Fetched: 1 in 0 seconds

| | SUM(STUDENT_ATTENDENCE) |
|---|-------------------------|
| 1 | 871 |