

MSDS 7330

File Organization and Database Management

Mini Project 2

Evangelos Giakoumakis

- 1) Produce a list of all the students in the student relation, including their ID, name and department name, sorted into ascending order by their name.

The screenshot shows a database management interface with a SQL query editor and a result grid. The query is:

```
1 select ID, name, dept_name
2 from student
3 order by name asc
4
5
6
```

The result grid displays the following data:

ID	name	dept_name
76653	Aoi	Elec. Eng.
98765	Bourikas	Elec. Eng.
19991	Brandt	Historv
76543	Brown	Comp. Sci.
23121	Chavez	Finance
45678	Leriv	Physics
44553	Pelber	Physics
55739	Sanchez	Music
12345	Shankar	Comp. Sci.
70557	Snow	Physics
98988	Tanaka	Biologv
54321	Williams	Comp. Sci.
00128	Zhang	Comp. Sci.
NULL	NULL	NULL

The interface includes a toolbar with various icons, a 'Filter Rows' field, and a 'Result Grid' button. The status bar at the bottom shows 'student 24' and 'Apply' and 'Revert' buttons.

2) Produce a list of the names and salaries of professors in the Comp. Sci. and Elec. Eng. departments ordered by decreasing salary.

The screenshot shows a database management interface with a query editor and a results grid. The query editor contains the following SQL code:

```
1 select name, salary
2 from instructor
3 where dept_name = "Comp. Sci." or dept_name = "Elec. Eng."
4 order by salary desc
5
6
7
```

The results grid displays the following data:

name	salary
Brandt	92000.00
Kim	80000.00
Katz	75000.00
Srinivasan	65000.00

The interface includes a toolbar with various icons, a "Filter Rows" input field, and an "Exports" button. The status bar at the bottom indicates "instructor 25" and "Read Only".

3) Find all courses whose identifier starts with the string "CS-1"

The screenshot shows a database management interface with a query editor and a results grid. The query editor contains the following SQL code:

```
1 select *
2 from course
3 where lower(course_id) like 'CS-1%'
4
5
```

The results grid displays the following data:

course_id	title	dept_name	credits
CS-101	Intro. to Computer Science	Comp. Sci.	4
CS-190	Game Design	Comp. Sci.	4

The interface includes a top menu bar with options like 'Administration - Startup / Shutdo...', 'smallRelationshipsInsert', 'largeRelationshipsInsert', and 'SQL File 5*'. A toolbar with various icons is located below the menu bar. The results grid has a 'Filter Rows' field and buttons for 'Edit', 'Export/Import', and 'Wrap Cell Content'. A sidebar on the right contains icons for 'Result Grid', 'Form Editor', 'Field Types', 'Query Stats', and 'Execution Plan'. The bottom status bar shows 'course 18' and buttons for 'Apply' and 'Revert'.

4) Find the maximum and minimum enrollment across all sections, considering only sections that had some enrollment, don't worry about those that had no students taking that section

Maximum:

The screenshot shows a SQL IDE window with the following components:

- SQL Editor:** Contains the query:

```
1 select course_id, Count(*)
2   from takes
3  group by course_id
4  order by count(*) desc
5  limit 1
```
- Result Grid:** Displays the query results in a table:

course_id	Count(*)
CS-101	7
- Toolbar:** Includes icons for file operations, query execution, and result viewing.
- Right Panel:** Contains links to 'Result Grid', 'Form Editor', 'Field Types', 'Query Stats', and 'Execution Plan'.
- Status Bar:** Shows 'Result 51' and 'Read Only'.

Minimum:

The screenshot shows a database management interface with a tab labeled "SQL File 5". The SQL editor contains the following query:

```
1 select course_id, Count(*)
2   from takes
3  group by course_id
4 order by count(*) asc
5 limit 1
```

Below the editor, the "Result Grid" displays the results of the query. The grid has two columns: "course_id" and "Count(*)". The results are as follows:

course_id	Count(*)
FIN-201	1
HIS-351	1
MU-199	1
PHY-101	1
BIO-101	1
EE-181	1
BIO-301	1

The interface includes a toolbar with various icons for file operations, a "Limit to 1000 rows" dropdown, and a "Filter Rows" input field. On the right side, there is a vertical toolbar with icons for "Result Grid", "Form Editor", "Field Types", "Query Stats", and "Execution Plan". The bottom status bar shows "Result 59" and "Read Only".

5) Create a view faculty showing only the ID, name, and department of instructors.

The screenshot shows a SQL IDE interface with a script editor at the top and a results grid at the bottom. The script editor contains the following SQL code:

```
1 create view faculty
2 as select ID, name, dept_name
3 from instructor
4
5 select *
6 from faculty
```

The results grid displays the data returned by the second query, showing 14 rows of instructor data. The columns are ID, name, and dept_name. The data is as follows:

ID	name	dept_name
10101	Srinivasan	Comp. Sci.
12121	Wu	Finance
15151	Mozart	Music
22222	Einstein	Physics
32343	El Said	Historv
33456	Gold	Physics
45565	Katz	Comp. Sci.
58583	Califleri	Historv
76543	Singh	Finance
76766	Crick	Bioloqv
83821	Brandt	Comp. Sci.
98345	Kim	Elec. Eng.

The IDE interface includes a toolbar at the top with various icons for file operations, a status bar at the bottom showing 'faculty 64 x' and 'Read Only', and a right-hand sidebar with icons for 'Result Grid', 'Form Editor', 'Field Types', 'Query Stats', and 'Execution Plan'.

6) Create a view CSinstructors, showing all information about instructors from the Comp. Sci. department.

The screenshot shows the SQL Developer interface with a script editor and a result grid. The script editor contains the following SQL code:

```
1 create view csinstructors
2 as select *
3 from instructor
4 where dept_name = "Comp. Sci."
5
6 select *
7 from csinstructors
```

The result grid displays the data returned by the second query, showing three rows of instructor information from the Comp. Sci. department.

ID	name	dept_name	salary
10101	Srinivasan	Comp. Sci.	65000.00
45565	Katz	Comp. Sci.	75000.00
83821	Brandt	Comp. Sci.	92000.00

The interface also shows a sidebar with various tools like Form Editor, Field Types, Query Stats, and Execution Plan. The status bar at the bottom indicates "csinstructors 66 x" and "Read Only".

Database Schema:

