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***ADMISSION:* 107691**

***GROUP:* ICS GROUP 3B**

**ADVANCED DATABASE ASSIGNMENT**

Intermediate SQL

1. **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.**

Showing rows 0-0(1 total, Query took 0.0065 seconds.)

[select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [max](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_max)(enrollment), [min](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_min)(enrollment) from ([select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html), [count](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(distinct id) as enrollment from takes group by sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html)) as alias1

|  |  |  |
| --- | --- | --- |
| max(enrollment) | min(enrollment) |  |
| 7 | 1 |  |

1. **Find all sections that had the maximum enrollment (along with the enrollment), using a subquery.**

Showing rows 0-0 (1 total, Query took 0.0097 seconds.)

with T(sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html), enrollment) as ([select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html), [count](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(distinct id)from takes group by sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html)) [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) T.sec\_id, T.semester, T.year, T.enrollment from T, ([select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [max](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_max)(enrollment) as ma, [min](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_min)(enrollment) from T) as tmp where T.enrollment = tmp.ma

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| sec\_id | semester | year | enrollment |  |
| 1 | Fall | 2009 | 7 |  |

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**3. As in in Q1, but now also include sections with no students taking them; the enrollment for such sections should be treated as 0. Do this in two different ways (and create require data for testing)**

 1 row affected. (Query took 0.0089 seconds.)

[delete](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/delete.html) from course where course\_id = 'CS-001'

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http://localhost/phpmyadmin/themes/dot.gif 0 rows affected. (Query took 0.0071 seconds.)

[delete](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/delete.html) from section where sec\_id = '1' [and](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_and) semester = 'Fall' [and](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_and) [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html) = '2010'Top of Form

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http://localhost/phpmyadmin/themes/dot.gif 1 row inserted. (Query took 0.0067 seconds.)

[insert](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/insert.html) into course(course\_id) [values](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/miscellaneous-functions.html#function_values) ('CS-001')

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http://localhost/phpmyadmin/themes/dot.gif 1 row inserted. (Query took 0.0049 seconds.)

[insert](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/insert.html) into section(course\_id, sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html)) [values](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/miscellaneous-functions.html#function_values) ('CS-001',1,'Fall',2010)

1. **Using a scalar subquery**

rows 0 - 7 (8 total, Query took 0.0070 seconds.)

[select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) distinct sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html), ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [count](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(distinct id) from takes where ( takes.sec\_id, takes.semester, takes.year ) = ( section.sec\_id, section.semester, section.year)) as cnt from section

| [**sec\_id**](http://localhost/phpmyadmin/sql.php?db=university&table=section&sql_query=select+distinct+sec_id%2C+semester%2C+year%2C+%28%0D%0Aselect+count%28distinct+id%29+from+takes%0D%0Awhere+%28%0D%0Atakes.sec_id%2C+takes.semester%2C+takes.year%0D%0A+%29+%3D+%28%0D%0Asection.sec_id%2C+section.semester%2C+section.year%29%29%0D%0Aas+cnt+from+section++%0AORDER+BY+%60section%60.%60sec_id%60+ASC&sql_signature=733bb4a93f78e35c4ec98323f3e1326ccf87d849599a3acfe63a092e21b82fed&session_max_rows=25&is_browse_distinct=0) | [**semester**](http://localhost/phpmyadmin/sql.php?db=university&table=section&sql_query=select+distinct+sec_id%2C+semester%2C+year%2C+%28%0D%0Aselect+count%28distinct+id%29+from+takes%0D%0Awhere+%28%0D%0Atakes.sec_id%2C+takes.semester%2C+takes.year%0D%0A+%29+%3D+%28%0D%0Asection.sec_id%2C+section.semester%2C+section.year%29%29%0D%0Aas+cnt+from+section++%0AORDER+BY+%60section%60.%60semester%60+ASC&sql_signature=c9045ff106829eade9a92d3dcf94c4f1abce63d551d401d57714dbacd99204c6&session_max_rows=25&is_browse_distinct=0) | [**year**](http://localhost/phpmyadmin/sql.php?db=university&table=section&sql_query=select+distinct+sec_id%2C+semester%2C+year%2C+%28%0D%0Aselect+count%28distinct+id%29+from+takes%0D%0Awhere+%28%0D%0Atakes.sec_id%2C+takes.semester%2C+takes.year%0D%0A+%29+%3D+%28%0D%0Asection.sec_id%2C+section.semester%2C+section.year%29%29%0D%0Aas+cnt+from+section++%0AORDER+BY+%60section%60.%60year%60+ASC&sql_signature=a12d8b8cc0715e28df92b96bff3c446b3e3f82da2385fca64e6e078e8e28fc1e&session_max_rows=25&is_browse_distinct=0) | [**cnt**](http://localhost/phpmyadmin/sql.php?db=university&table=section&sql_query=select+distinct+sec_id%2C+semester%2C+year%2C+%28%0D%0Aselect+count%28distinct+id%29+from+takes%0D%0Awhere+%28%0D%0Atakes.sec_id%2C+takes.semester%2C+takes.year%0D%0A+%29+%3D+%28%0D%0Asection.sec_id%2C+section.semester%2C+section.year%29%29%0D%0Aas+cnt+from+section++%0AORDER+BY+%60cnt%60+ASC&sql_signature=686bd8c6169a63af66a3180c2c80caede901544d42e4f19e37ec291d69ed073c&session_max_rows=25&is_browse_distinct=0) |  |
| --- | --- | --- | --- | --- |
| 1 | Summer | 2009 | 1 |  |
| 1 | Summer | 2010 | 1 |  |
| 1 | Fall | 2010 | 0 |  |
| 1 | Fall | 2009 | 7 |  |
| 1 | Spring | 2010 | 6 |  |
| 1 | Spring | 2009 | 1 |  |
| 2 | Spring | 2009 | 2 |  |
| 2 | Spring | 2010 | 1 |  |

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1. **Using aggregation on a left outer join (use the SQL natural left outer join syntax)**

rows 0 - 7 (8 total, Query took 0.0108 seconds.)

[select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) distinct sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html), ifnull(cnt,0) from section [left](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/string-functions.html#function_left) outer join ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html), [count](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(distinct id) as cnt from takes group by sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html)) as T using (sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html));

| [**sec\_id**](http://localhost/phpmyadmin/sql.php?db=university&table=section&sql_query=select+distinct+sec_id%2C+semester%2C+year%2C+ifnull%28cnt%2C0%29%0D%0Afrom+section+left+outer+join+%28%0D%0Aselect+sec_id%2C+semester%2C+year%2C+count%28distinct+id%29+as+cnt%0D%0Afrom+takes+group+by+sec_id%2C+semester%2C+year%29+as+T%0D%0Ausing+%28sec_id%2C+semester%2C+year%29++%0AORDER+BY+%60section%60.%60sec_id%60+ASC&sql_signature=5f4d62ad56118d4a61366dabda2e1d1ef7069ecad530322fb08b5d77050d35e5&session_max_rows=25&is_browse_distinct=0) | [**semester**](http://localhost/phpmyadmin/sql.php?db=university&table=section&sql_query=select+distinct+sec_id%2C+semester%2C+year%2C+ifnull%28cnt%2C0%29%0D%0Afrom+section+left+outer+join+%28%0D%0Aselect+sec_id%2C+semester%2C+year%2C+count%28distinct+id%29+as+cnt%0D%0Afrom+takes+group+by+sec_id%2C+semester%2C+year%29+as+T%0D%0Ausing+%28sec_id%2C+semester%2C+year%29++%0AORDER+BY+%60section%60.%60semester%60+ASC&sql_signature=b798a8b217722b47d34b5f413f0246c4a2085b84759d8821b60081afcb1b1d36&session_max_rows=25&is_browse_distinct=0) | [**year**](http://localhost/phpmyadmin/sql.php?db=university&table=section&sql_query=select+distinct+sec_id%2C+semester%2C+year%2C+ifnull%28cnt%2C0%29%0D%0Afrom+section+left+outer+join+%28%0D%0Aselect+sec_id%2C+semester%2C+year%2C+count%28distinct+id%29+as+cnt%0D%0Afrom+takes+group+by+sec_id%2C+semester%2C+year%29+as+T%0D%0Ausing+%28sec_id%2C+semester%2C+year%29++%0AORDER+BY+%60section%60.%60year%60+ASC&sql_signature=9eedbb4866fb70c7f85b8870ad99dfb63f12765ad64c096bc4797f55cfc44fd4&session_max_rows=25&is_browse_distinct=0) | [**ifnull(cnt,0)**](http://localhost/phpmyadmin/sql.php?db=university&table=section&sql_query=select+distinct+sec_id%2C+semester%2C+year%2C+ifnull%28cnt%2C0%29%0D%0Afrom+section+left+outer+join+%28%0D%0Aselect+sec_id%2C+semester%2C+year%2C+count%28distinct+id%29+as+cnt%0D%0Afrom+takes+group+by+sec_id%2C+semester%2C+year%29+as+T%0D%0Ausing+%28sec_id%2C+semester%2C+year%29++%0AORDER+BY+%60ifnull%28cnt%2C0%29%60+ASC&sql_signature=7d3e8cedc7cf3c50c1b854bd3f357037ac12bc196edf409f9f57ea3c333ca18a&session_max_rows=25&is_browse_distinct=0) |  |
| --- | --- | --- | --- | --- |
| 1 | Summer | 2009 | 1 |  |
| 1 | Summer | 2010 | 1 |  |
| 1 | Fall | 2010 | 0 |  |
| 1 | Fall | 2009 | 7 |  |
| 1 | Spring | 2010 | 6 |  |
| 1 | Spring | 2009 | 1 |  |
| 2 | Spring | 2009 | 2 |  |
| 2 | Spring | 2010 | 1 |  |

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**4. Find all courses whose identifier starts with the string "CS-1"**

rows 0 - 3 (4 total, Query took 0.0029 seconds.)

[select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) course\_id, title from section natural join course where course\_id [like](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/string-comparison-functions.html#operator_like) 'CS-1%';

| [**course\_id**](http://localhost/phpmyadmin/sql.php?db=university&table=section&sql_query=select+course_id%2C+title%0D%0Afrom+section+natural+join+course%0D%0Awhere+course_id+like+%27CS-1%25%27++%0AORDER+BY+%60section%60.%60course_id%60+ASC&sql_signature=4bb5a1f1a9f920abf36be06d59a3f81233bf8c5997a3ad71d9a3383f18b41d00&session_max_rows=25&is_browse_distinct=0) | [**title**](http://localhost/phpmyadmin/sql.php?db=university&table=section&sql_query=select+course_id%2C+title%0D%0Afrom+section+natural+join+course%0D%0Awhere+course_id+like+%27CS-1%25%27++%0AORDER+BY+%60course%60.%60title%60+ASC&sql_signature=0872c23d6ef4c69ebe32bf97ee00b0835301ee39d12a281948d58e9d7af57d0c&session_max_rows=25&is_browse_distinct=0) |  |
| --- | --- | --- |
| [CS-101](http://localhost/phpmyadmin/sql.php?db=university&table=course&pos=0&sql_signature=e3741f52199f8ff8caaa78c0764e15efd37e78272cdd8d033560cdf6864e337b&sql_query=SELECT+%2A+FROM+%60university%60.%60course%60+WHERE+%60course_id%60+%3D+%27CS-101%27) | Intro. to Computer Science |  |
| [CS-101](http://localhost/phpmyadmin/sql.php?db=university&table=course&pos=0&sql_signature=e3741f52199f8ff8caaa78c0764e15efd37e78272cdd8d033560cdf6864e337b&sql_query=SELECT+%2A+FROM+%60university%60.%60course%60+WHERE+%60course_id%60+%3D+%27CS-101%27) | Intro. to Computer Science |  |
| [CS-190](http://localhost/phpmyadmin/sql.php?db=university&table=course&pos=0&sql_signature=fb0f349357b2d4954b2f6a4b17e2e9d920daea61e59bfe9ed6e4034a304f0cc5&sql_query=SELECT+%2A+FROM+%60university%60.%60course%60+WHERE+%60course_id%60+%3D+%27CS-190%27) | Game Design |  |
| [CS-190](http://localhost/phpmyadmin/sql.php?db=university&table=course&pos=0&sql_signature=fb0f349357b2d4954b2f6a4b17e2e9d920daea61e59bfe9ed6e4034a304f0cc5&sql_query=SELECT+%2A+FROM+%60university%60.%60course%60+WHERE+%60course_id%60+%3D+%27CS-190%27) | Game Design |  |

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**5. Find instructors who have taught all the above courses**

**1. Using the "not exists ... except ..." structure**

http://localhost/phpmyadmin/themes/dot.gif MySQL returned an empty result set (i.e. zero rows). (Query took 0.0200 seconds.)

[select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) distinct ID, name from ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) \* from teaches natural join instructor) as T where [not](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_not) exists ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) cs\_course.course\_id from ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) course\_id from course where course\_id [like](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/string-comparison-functions.html#operator_like) 'CS-1%') as cs\_course where cs\_course.course\_id [not](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_not) [in](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#function_in) ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) course\_id from ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) \* from teaches natural join instructor) as S where S.name = T.name);

1. **Using matching of counts which we covered in class (don't forget the distinct clause!).**

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0138 seconds.)

with S(course\_id) as ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) distinct course\_id from teaches natural join instructor where course\_id [like](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/string-comparison-functions.html#operator_like) 'CS-1%') [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) distinct ID, name from ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) \* from teaches natural join instructor) as T where (([select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [count](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(course\_id) from S)=( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [count](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(distinct course\_id) from teaches natural join instructor where name = T.name [and](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_and) course\_id [like](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/string-comparison-functions.html#operator_like) 'CS-1%' ));

**6. Insert each instructor as a student, with tot\_creds = 0, in the same department**

Insert into student select ID, name, dept\_name, '0'

from instructor;

#1062 - Duplicate entry '76543' for key 'PRIMARY'

1. **Now delete all the newly added "students" above (note: already existing students who happened to have tot\_creds = 0 should not get deleted**

0 rows affected. (Query took 0.0092 seconds.)

[delete](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/delete.html) from student where (ID, name, dept\_name) [in](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#function_in) ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ID, name, dept\_name from instructor);

1. **Some of you may have noticed that the tot\_creds value for students did not match the credits from courses they have taken. Write and execute query to update tot\_creds based on the credits passed, to bring the database back to consistency.**

rows affected. (Query took 0.0127 seconds.)

[update](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/update.html) student as S [set](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/set.html) tot\_cred = ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [sum](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_sum)(credits) from takes natural join course where S.ID = takes.ID [and](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_and) takes.grade [is](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#operator_is) [not](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_not) null);

1. **Update the salary of each instructor to 10000 times the number of course sections they have taught**

12 rows affected. (Query took 0.0096 seconds.)

[update](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/update.html) instructor as I [set](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/set.html) salary = 10000 \* ( [select](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [count](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(distinct sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html)) from teaches as T where I.ID = T.ID)

*Advanced SQL*

1. **The university rules allow an F grade to be overridden by any pass grade (A, B, C, D). Now, create a view that lists information about all fail grades that have not been overridden (the view should contain all attributes from the takes relation)**

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0283 seconds.)

[CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/create-view.html) [VIEW](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/create-view.html) Fail\_Students AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ID, course\_id ,sec\_id, semester, [year](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html), grade FROM takes WHERE grade = "F";

1. **Find all students who have 2 or more non-overridden F grades as per the takes relation, and list them along with the F grades**

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0047 seconds.)

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) student.name, takes.grade FROM student INNER JOIN takes ON student.ID=takes.ID WHERE (grade="F")>1;

| **name** | **grade** |  |
| --- | --- | --- |

1. Top of Form
2. **Grades are mapped to a grade point as follows: A:10, B:8, C:6, D:4 and F:0. Create a table to store these mappings, and write a query to find the CPI(Cumulative Performance Index) of each student, using this table. Make sure students who have not got a non-null grade in any course are displayed with a CPI of null**

MySQL returned an empty result set (i.e. zero rows). (Query took 0.1035 seconds.)

[CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/create-table.html) [TABLE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/create-table.html) grade\_mappings(ID [INT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/numeric-types.html)(6) [NOT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_not) NULL AUTO\_INCREMENT, student\_name [varchar](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/string-types.html)(10), course\_id [varchar](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/string-types.html)(6), grade [varchar](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/string-types.html)(7), grade\_map [varchar](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/string-types.html)(10));

1. Top of Form
2. Bottom of Form

http://localhost/phpmyadmin/themes/dot.gifMySQL returned an empty result set (i.e. zero rows). (Query took 0.0069 seconds.)

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ([SUM](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_sum)(grade\_map) /count(course\_id)) AS CPI FROM grade\_mappings GROUP BY ID;

| **CPI** |  |
| --- | --- |

1. Top of Form
2. **Find all rooms that have been assigned to more than one section at the same time. Display the rooms along with the assigned sections; I suggest you use a with clause or a view to simplify this query**

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0177 seconds.)

[CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/create-view.html) [VIEW](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/create-view.html) ROOM\_ALLOCATED AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) room\_number, [count](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(sec\_id) FROM section GROUP BY room\_number, time\_slot\_id;

1. **Create a view faculty showing only the ID, name, and department of instructors.**

 MySQL returned an empty result set (i.e. zero rows). (Query took 0.0368 seconds.)

[CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/create-view.html) [VIEW](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/create-view.html) Faculty AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ID, name,dept\_name FROM instructor;

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

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0267 seconds.)

[CREATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/create-view.html) [VIEW](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/create-view.html) CSinstructors AS [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ID, name, salary FROM instructor where dept\_name ="Comp. Sci.";

| [**ID**](http://localhost/phpmyadmin/sql.php?db=university&table=csinstructors&sql_query=SELECT+%2A+FROM+%60csinstructors%60++%0AORDER+BY+%60csinstructors%60.%60ID%60+ASC&sql_signature=a5c1e403faa8410de8cead386a899b390cccbcc99771489d5030598f5512a152&session_max_rows=25&is_browse_distinct=0) | **name** | | [**salary**](http://localhost/phpmyadmin/sql.php?db=university&table=csinstructors&sql_query=SELECT+%2A+FROM+%60csinstructors%60++%0AORDER+BY+%60csinstructors%60.%60salary%60+ASC&sql_signature=806bc9f427dac20d13144aa6e8ae7db3092be570d1d78da6196c07f9a87cba2c&session_max_rows=25&is_browse_distinct=0) |
| --- | --- | --- | --- |
| 10101 | Srinivasan | 20000.00 | | |  |  |  |  |
| 45565 | Katz | 10000.00 | | |  |  |  |  |
| 83821 | Brandt | 30000.00 | | |  |  |  |  |

1. **Insert appropriate tuple into each of the views faculty and CSinstructors, to see what updates your database allows on views; explain what happens**

Second insert fails complaining about primary key, because the views don’t contain any tuples themselves and insert statements actually insert values into underlying table. Since both views are based on the same table, we cannot insert a tuple with same id value.

**8. Grant permission to one of your friends to view all data in your student relation.**

 (Query took 0.0048 seconds.)

GRANT [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ON university.student TO 'root'@'localhost'

**9.** **Now grant permission to all users to see all data in your faculty view. Conversely, find a friend who has granted you permission on their faculty view, and execute a select query on that view**

 (Query took 0.0039 seconds.)

GRANT [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ON university.faculty TO ''@'localhost'

**10. Create a trigger on a trigger to handle inserts to the takes table. The trigger must ensure that 1) every inserted grade is one of A, B, C, D, and F; and 2) every inserted semester is one of Summer, Fall, and Spring**