|  |
| --- |
| School of Information and Computer TechnologySirindhorn International Institute of TechnologyThammasat University ITS331 Information Technology Laboratory I |

*Laboratory #6: MySQL* Exercises

#### Fill in an appropriate MySQL statement (not results) to complete each task. The structure of employee\_data and employee\_per is given for reference.

**employee\_data**

+--------+------------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+--------+------------------+------+-----+---------+----------------+

| emp\_id | int(10) unsigned | NO | PRI | NULL | auto\_increment |

| f\_name | varchar(20) | YES | | NULL | |

| l\_name | varchar(20) | YES | | NULL | |

| title | varchar(30) | YES | | NULL | |

| age | int(11) | YES | | NULL | |

| yos | int(11) | YES | | NULL | |

| salary | int(11) | YES | | NULL | |

| perks | int(11) | YES | | NULL | |

| email | varchar(60) | YES | | NULL | |

+--------+------------------+------+-----+---------+----------------+

**employee\_per**

+------------+------------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+------------+------------------+------+-----+---------+-------+

| e\_id | int(10) unsigned | NO | PRI | NULL | |

| address | varchar(60) | YES | | NULL | |

| phone | int(11) | YES | | NULL | |

| p\_email | varchar(60) | YES | | NULL | |

| birth\_date | date | YES | | NULL | |

| sex | enum('M','F') | YES | | NULL | |

| m\_status | enum('Y','N') | YES | | NULL | |

| s\_name | varchar(40) | YES | | NULL | |

| children | int(11) | YES | | NULL | |

+------------+------------------+------+-----+---------+-------+

### List all available databases

show databases;

### List all available tables

Show tables;

### Describe the structure of a table named student

DESC student;

### List salary, perks, and yos (years of service) of all employees

SELECT salary, perks, yos FROM employee\_data;

### List employee IDs, first name, and last name of all “Marketing Executive” who are older than 28 years old

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) emp\_id, f\_name, l\_name FROM employee\_data WHERE title = 'Marketing Executive' [AND](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#_blank) age > 28;

### List the first name and last name of all employees who are neither “Senior Programmer” nor “Multimedia Programmer”.

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) f\_name, l\_name FROM employee\_data WHERE title [NOT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#_blank) [IN](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#_blank) ('Senior Programmer','Multimedia Programmer');

### List first name, last name, title, and age of the top five oldest employees. Order them in descending order of their ages.

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) f\_name, l\_name, title, age FROM employee\_data ORDER BY age DESC;

### Display the highest salary of employees who are “Programmer”.

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) salary FROM employee\_data WHERE title = 'Programmer' ORDER BY salary DESC;

### Display the first name and last name of the youngest employee.

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) f\_name, l\_name FROM employee\_data ORDER BY age LIMIT 0,1;

### Display the average YOS (year of service) and the sum of salary for each title. HINT: use GROUP BY.

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) [AVG](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#_blank)(yos), [SUM](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#_blank)(salary) FROM employee\_data GROUP BY title;

### Count the number of employees for each value of ages. Order the results in descending order of ages.

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) age, [COUNT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#_blank)(\*) FROM employee\_data GROUP BY age ORDER BY [COUNT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#_blank)(\*);

### Find the average age of each title. Display only titles whose average ages are more than 30. Order them in descending order of the average ages.

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) title, [AVG](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#_blank)(age) FROM employee\_data GROUP BY title HAVING [AVG](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#_blank)(age) > 30 ORDER BY [AVG](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#_blank)(age) DESC

### Display employee ids and birth dates (in full e.g., 13 July 2012) of employees born in and between 1970 and 1972.

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) e\_id, birth\_date FROM employee\_per WHERE birth\_date BETWEEN '1970-01-01' [AND](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#_blank) '1972-12-31';

### Count the number of employees who are married and unmarried. Use GROUP BY.

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) m\_status, [COUNT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#_blank)(\*) FROM employee\_per GROUP BY m\_status;

### Count the number of male/female employees who are married and unmarried. Note that there are four cases: married male, married female, unmarried male and unmarried female. Use GROUP BY.

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) m\_status, sex, [COUNT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#_blank)(\*) FROM employee\_per GROUP BY m\_status,sex;

### Display MySQL version

SELECT version();

### Change the last name of employee with ID=3 (Anamika Pandit) to “Sharma”

[UPDATE](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/update.html) employee\_data [SET](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/set.html) l\_name = 'Sharma' WHERE emp\_id = 3;

### Change the titles of all “Multimedia Programmer” to “Multimedia Specialist”

[UPDATE](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/update.html) employee\_data [SET](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/set.html) title = 'Multimedia Specialist' WHERE title = 'Multimedia Programmer'

### Add the following employee to “employee\_data”

**First name:** Rudolf  **Last name:** Reindeer

**Title:** Business Analyst **Age:** 34

**Years of service:** 2 **Salary:** 95000

**Perks:** 17000 **email:** [rudolf@bugnet.com](mailto:rudolf@bugnet.com)

[INSERT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/insert.html) INTO employee\_data (f\_name, l\_name, title, age, yos, salary, perks, email) [VALUES](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/miscellaneous-functions.html#_blank) ('Rudolf', 'Reindeer','Business Analyst', 34, 2, 95000, 17000, 'rudolf@bugnet.com');

### Display the first name and last name of all employees born in August. Use table join.

[SELECT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/select.html) f\_name, l\_name, birth\_date FROM employee\_data d, employee\_per p WHERE d.emp\_id = p.e\_id [AND](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#_blank) Month(birth\_date) = 8;

### Delete all married employees (s\_name is not empty) who do not have any children (children is empty) from the table “employee\_per”

[DELETE](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/delete.html) FROM employee\_per WHERE s\_name [IS](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#_blank) [NOT](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#_blank) NULL [AND](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#_blank) children [IS](http://localhost/phpmyadmin/url.php?url=http://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#_blank) NULL

### Delete the table “employee\_per” from the database

DROP TABLE employee\_per;