/*Employee Management*/

```
mysql> select * from departments;
+------+-----------------+--------+
| Code | Name            | Budget |
+------+-----------------+--------+
|   14 | IT              |  65000 |
|   37 | Accounting      |  15000 |
|   59 | Human Resources | 240000 |
|   77 | Research        |  55000 |
+------+-----------------+--------+

mysql> select * from employees;
+-----------+-----------+-----------+------------+
| SSN       | Name      | LastName  | Department |
+-----------+-----------+-----------+------------+
| 123234877 | Michael   | Rogers    |         14 |
| 152934485 | Anand     | Manikutty |         14 |
| 222364883 | Carol     | Smith     |         37 |
| 326587417 | Joe       | Stevens   |         37 |
| 332154719 | Mary-Anne | Foster    |         14 |
| 332569843 | George    | O'Donnell |         77 |
| 546523478 | John      | Doe       |         59 |
| 631231482 | David     | Smith     |         77 |
| 654873219 | Zacary    | Efron     |         59 |
| 745685214 | Eric      | Goldsmith |         59 |
| 845657245 | Elizabeth | Doe       |         14 |
| 845657246 | Kumar     | Swamy     |         14 |
+-----------+-----------+-----------+------------+
```

-- 1. Select the last name of all employees.
ans:

```
mysql> select lastname from employees;
+-----------+
| lastname  |
+-----------+
| Rogers    |
| Manikutty |
| Smith     |
| Stevens   |
| Foster    |
| O'Donnell |
| Doe       |
| Smith     |
| Efron     |
| Goldsmith |
| Doe       |
| Swamy     |
+-----------+
```

-- 2. Select the last name of all employees, without duplicates.
ans:

```
mysql> select distinct lastname from employees;
+-----------+
| lastname  |
+-----------+
| Rogers    |
| Manikutty |
| Smith     |
| Stevens   |
| Foster    |
| O'Donnell |
| Doe       |
| Efron     |
| Goldsmith |
| Swamy     |
+-----------+
```

-- 3. Select all the data of employees whose last name is "Smith".
ans:

```
mysql> select * from employees where lastname = 'Smith';
+-----------+-------+----------+------------+
| SSN       | Name  | LastName | Department |
+-----------+-------+----------+------------+
| 222364883 | Carol | Smith    |         37 |
| 631231482 | David | Smith    |         77 |
+-----------+-------+----------+------------+
```

-- 4. Select all the data of employees whose last name is "Smith" or "Doe".
ans:

```
mysql> select * from employees where lastname = 'Smith' or lastname = 'Doe';
+-----------+-----------+----------+------------+
| SSN       | Name      | LastName | Department |
+-----------+-----------+----------+------------+
| 222364883 | Carol     | Smith    |         37 |
| 546523478 | John      | Doe      |         59 |
| 631231482 | David     | Smith    |         77 |
| 845657245 | Elizabeth | Doe      |         14 |
+-----------+-----------+----------+------------+
```

-- 5. Select all the data of employees that work in department 14.
ans:

```
mysql> select * from employees where Department = 14;
+-----------+-----------+-----------+------------+
| SSN       | Name      | LastName  | Department |
+-----------+-----------+-----------+------------+
| 123234877 | Michael   | Rogers    |         14 |
| 152934485 | Anand     | Manikutty |         14 |
| 332154719 | Mary-Anne | Foster    |         14 |
| 845657245 | Elizabeth | Doe       |         14 |
| 845657246 | Kumar     | Swamy     |         14 |
+-----------+-----------+-----------+------------+
```

-- 6. Select all the data of employees that work in department 37 or department 77.
ans:

```
mysql> select * from employees where department in (37,77);
+-----------+--------+-----------+------------+
| SSN       | Name   | LastName  | Department |
+-----------+--------+-----------+------------+
| 222364883 | Carol  | Smith     |         37 |
| 326587417 | Joe    | Stevens   |         37 |
| 332569843 | George | O'Donnell |         77 |
| 631231482 | David  | Smith     |         77 |
+-----------+--------+-----------+------------+
```

-- 7. Select all the data of employees whose last name begins with an "S".
ans:

```
mysql> select * from employees where lastname like 'S%';
+-----------+-------+----------+------------+
| SSN       | Name  | LastName | Department |
+-----------+-------+----------+------------+
| 222364883 | Carol | Smith    |         37 |
| 326587417 | Joe   | Stevens  |         37 |
| 631231482 | David | Smith    |         77 |
| 845657246 | Kumar | Swamy    |         14 |
+-----------+-------+----------+------------+
```

-- 8. Select the sum of all the departments' budgets.
ans:

```
mysql> select sum(Budget) from departments;
+-------------+
| sum(Budget) |
+-------------+
|      375000 |
+-------------+
```

-- 9. Select the number of employees in each department (you only need to show the department code and the number of employees).
ans:

```
mysql> select Department,count(*) as Number_of_employees from employees group by Department;
+------------+---------------------+
| Department | Number_of_employees |
+------------+---------------------+
|         14 |                   5 |
|         37 |                   2 |
|         59 |                   3 |
|         77 |                   2 |
+------------+---------------------+
```

-- 10. Select all the data of employees, including each employee's department's data.
ans:

```
mysql> select * from employees E inner join departments D on E.Department = D.Code;
+-----------+-----------+-----------+------------+------+-----------------+--------+
| SSN       | Name      | LastName  | Department | Code | Name            | Budget |
+-----------+-----------+-----------+------------+------+-----------------+--------+
| 123234877 | Michael   | Rogers    |         14 |   14 | IT              |  65000 |
| 152934485 | Anand     | Manikutty |         14 |   14 | IT              |  65000 |
| 332154719 | Mary-Anne | Foster    |         14 |   14 | IT              |  65000 |
| 845657245 | Elizabeth | Doe       |         14 |   14 | IT              |  65000 |
| 845657246 | Kumar     | Swamy     |         14 |   14 | IT              |  65000 |
```

```
| 222364883 | Carol     | Smith     |         37 |   37 | Accounting      |  15000 |
| 326587417 | Joe       | Stevens   |         37 |   37 | Accounting      |  15000 |
| 546523478 | John      | Doe       |         59 |   59 | Human Resources | 240000 |
| 654873219 | Zacary    | Efron     |         59 |   59 | Human Resources | 240000 |
| 745685214 | Eric      | Goldsmith |         59 |   59 | Human Resources | 240000 |
| 332569843 | George    | O'Donnell |         77 |   77 | Research        |  55000 |
| 631231482 | David     | Smith     |         77 |   77 | Research        |  55000 |
+-----------+-----------+-----------+------------+------+-----------------+--------+
```

-- 11. Select the name and last name of each employee, along with the name and budget of the employee's department.
ans:

```
mysql> select employees.name, lastname, departments.name as departments_name, budget from employees inner join departments on
employees.department = departments.code;
+-----------+-----------+------------------+--------+
| name      | lastname  | departments_name | budget |
+-----------+-----------+------------------+--------+
| Michael   | Rogers    | IT               |  65000 |
| Anand     | Manikutty | IT               |  65000 |
| Mary-Anne | Foster    | IT               |  65000 |
| Elizabeth | Doe       | IT               |  65000 |
| Kumar     | Swamy     | IT               |  65000 |
| Carol     | Smith     | Accounting       |  15000 |
| Joe       | Stevens   | Accounting       |  15000 |
| John      | Doe       | Human Resources  | 240000 |
| Zacary    | Efron     | Human Resources  | 240000 |
| Eric      | Goldsmith | Human Resources  | 240000 |
| George    | O'Donnell | Research         |  55000 |
| David     | Smith     | Research         |  55000 |
+-----------+-----------+------------------+--------+
```

-- 12. Select the name and last name of employees working for departments with a budget greater than $60,000.
ans:

```
mysql> select name,lastname from employees where department in (select code from departments where Budget > 60000);
+-----------+-----------+
| name      | lastname  |
+-----------+-----------+
| Michael   | Rogers    |
| Anand     | Manikutty |
| Mary-Anne | Foster    |
| Elizabeth | Doe       |
| Kumar     | Swamy     |
| John      | Doe       |
| Zacary    | Efron     |
| Eric      | Goldsmith |
+-----------+-----------+
```

-- 13. Select the departments with a budget larger than the average budget of all the departments.
ans:

```
mysql> select * from departments where budget > (select avg(budget) from departments);
+------+-----------------+--------+
| Code | Name            | Budget |
+------+-----------------+--------+
|   59 | Human Resources | 240000 |
+------+-----------------+--------+
```

-- 14. Select the names of departments with more than two employees.
ans:

```
mysql> select Name from departments where code in (select department from employees group by department having count(*) > 2);
+-----------------+
| Name            |
+-----------------+
| IT              |
| Human Resources |
+-----------------+
```

-- 15. Select the name and last name of employees working for departments with second lowest budget.
ans:

```
mysql> SELECT e.Name, e.LastName FROM Employees e WHERE e.Department = (SELECT sub.Code FROM (SELECT * FROM Departments d ORDER
BY d.budget LIMIT 2) sub ORDER BY budget DESC LIMIT 1);
+--------+-----------+
| Name   | LastName  |
+--------+-----------+
| George | O'Donnell |
| David  | Smith     |
+--------+-----------+
```

-- 16. Add a new department called "Quality Assurance", with a budget of $40,000 and departmental code 11. Add an employee called
"Mary Moore" in that department, with SSN 847-21-9811.
ans:

```
    mysql> insert into departments values(11 , 'Quality Assurance' , 40000);

    mysql> INSERT INTO Employees VALUES ( '847219811' , 'Mary' , 'Moore' , 11);

-- 17. Reduce the budget of all departments by 10%.
ans:
    mysql> update departments set budget = budget * 0.9;

-- 18. Reassign all employees from the Research department (code 77) to the IT department (code 14).
ans:
    mysql> update employees set department = 14 where department = 77;

-- 19. Delete from the table all employees in the IT department (code 14).
ans:
    mysql> delete from employees where Department = 14;

-- 20. Delete from the table all employees who work in departments with a budget greater than or equal to $60,000.
ans:
    mysql> delete from employees where department in (select code from departments where budget >= 60000);

-- 21. Delete from the table all employees.
ans:
    mysql> delete from employees;
```