SQL part 4. Aggregations.

1. Find minimum and maximum salary. Compute also the difference between maximum and minimum salary.

```
 minimum_salary | maximum_salary | difference
----------------+----------------+------------
         900.00 |        4730.00 |    3830.00
```

2. Find out how many employees have no department assigned.

```
 employees_without_dept
------------------------
                      1
```

3. Count professors.

```
 professors
------------
          4
```

4. Find an average salary (rounded to two decimal places) for each job. Sort the result according to average salary in descending order.

```
     job      | job_average_salary
--------------+--------------------
 PRINCIPAL    |            4730.00
 PROFESSOR    |            3402.50
 LECTURER     |            2727.85
 ASSISTANT    |            1887.43
 SECRETARY    |            1590.00
 PHD STUDENT  |             900.00
```

5. Modify above query and include also additional salary. Also count number of employees for each job.

```
     job      | job_average_salary | employees
--------------+--------------------+-----------
 PRINCIPAL    |            5710.50 |         1
 PROFESSOR    |            3756.25 |         4
 LECTURER     |            2727.85 |         2
 ASSISTANT    |            2105.05 |         4
 SECRETARY    |            1590.00 |         1
 PHD STUDENT  |            1185.30 |         2
```

6. Modify previous query and skip jobs with only one employee.

```
     job      | job_average_salary | employees
--------------+--------------------+-----------
 PROFESSOR    |            3756.25 |         4
 LECTURER     |            2727.85 |         2
 ASSISTANT    |            2105.05 |         4
 PHD STUDENT  |            1185.30 |         2
```

7. For each department count how many employees earn additional salary. Skip employees without department.

dept_id	employees_with_add_salary
10	1
20	2
30	1
40	1

8. Modify previous query and also compute average additional salary in department and sum of additional salaries in department.

dept_id	employees_with_add_salary	avg_add_salary	sum_of_add_salaries
10	1	980.50	980.50
20	2	642.75	1285.50
30	1	570.60	570.60
40	1	610.00	610.00

9. For each boss count his/her subordinates.

boss_id	number_of_subordinates
100	4
110	1
120	1
130	5
140	2

10. Count the number of employees who were employed in following years. Sort the result according to the year.

year_of_employment	number_of_employees
1968	2
1973	1
1975	1
1977	2
1985	2
1992	2
1993	3
1994	1

11. Count the surnames according to their lengths.

surname_length	number_of_surnames
4	2
5	7
6	1
7	3
8	1

12. First count in how many names the letters “a” and “A” appears. Next do this for letters “e” and “E”.

```
 surnames_with_a
-----------------
               4

 surnames_with_e
-----------------
               6
```

13. Construct a query to get above two results together (using one query).

```
 surnames_with_a | surnames_with_e
-----------------+-----------------
               4 |               6
```