Alimgozha Adil

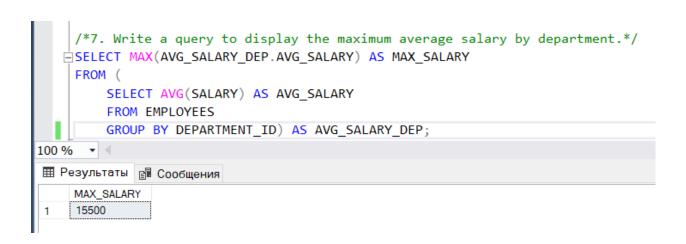
Lab 2

```
\dot{\Box}/*1. Write a query to display all the information about employees whose salaries are higher
     than the average salary of programmers.*/
   ĖSELECT *
     FROM EMPLOYEES
     WHERE SALARY > (
          SELECT AVG(SALARY)
          FROM EMPLOYEES
          WHERE JOB_ID = 'IT_PROG');
100 % ▼ <
🏻 Результаты 🗐 Сообщения
     EMPLOYEE_ID FULL_NAME
                                  EMAIL
                                             PHONE_NUMBER HIRE_DAT JOB_ID
                                                                                      SALARY
                                                                                              DEPARTMENT_ID
                  Steven King
                                  SKING
                                             515.123.4567
                                                               1987-06-17 AD_PRES
                                                                                      24000
     101
                   Neena Kochhar
                                  NKOCHAR
                                             515.123.4568
                                                               1989-09-21 AD_VP
                                                                                       17000
2
                                                                                               10
     102
                                  LDEHAA
                                             515.123.4569
                                                               1993-03-13 AD_VP
                                                                                       17000
                                                                                               10
3
                   Lex De Haan
     103
                                  AHUNOLD
                                             590.423.4567
                                                               1990-01-03 IT_PROG
                                                                                       9000
4
                   Alexander Hunold
5
     149
                   Eleni Zlotkey
                                  EZLOTKEY
                                             011.44.1344.429010 2000-01-29 SA_MAN
                                                                                      7000
                                                                                               80
                   Ellen Abel
                                             011.44.1644.429267 1996-05-11 SA_REP
     174
6
                                  ABELL
                                                                                       11000
                                                                                               80
7
     176
                   Jonathon Taylor
                                  JTAILOR
                                             011.44.1644.429265 1998-03-24 SA_REP
                                                                                      8600
                                                                                               80
     178
                                             011.44.1644.429263 1999-05-24 SA_REP
                                                                                       7000
8
                   Kimberely Grant
                                  KGRANT
9
     201
                   Michael Hartstein
                                  MHARTSTE 515.123.5555
                                                               1996-02-17 MK_MAN
                                                                                       13000
                                                                                               20
                                                               1994-06-07 AC_MGR
10
                   Shelley Higgins
                                  SHIGGINS
                                             515 123 8080
                                                                                       12000
                                                                                               110
     205
     206
                   William Gietz
                                  WGIETZ
                                             515.123.8181
                                                               1994-06-07 AC_ACCOUNT
                                                                                      8300
                                                                                               110
11
```

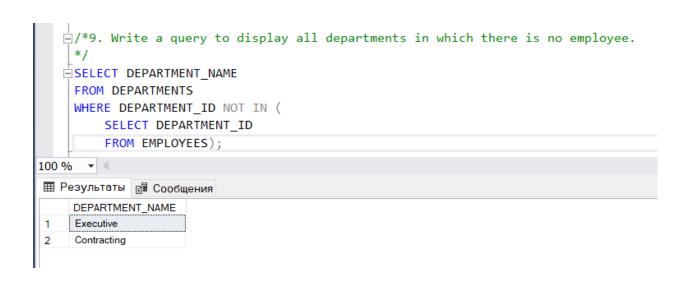
```
\dot{\Box}/*2. Write a query to display the id, full names and salary of the employees with the
     minimum salaries in each department.*/
   SELECT EMPLOYEE_ID, FULL_NAME, SALARY
     FROM EMPLOYEES
     WHERE SALARY IN (
          SELECT MIN(SALARY)
          FROM EMPLOYEES
          GROUP BY DEPARTMENT_ID);
100 % ▼ ◀
EMPLOYEE_ID
                 FULL_NAME
                               SALARY
    104
                               6000
1
                  Bruce Ernst
                               4000
     107
2
                  Diana Lorentz
                  Peter Vargas
                               2500
3
     144
     149
                               7000
4
                  Eleni Zlotkev
5
     178
                  Kimberely Grant
                               7000
                  Jennifer Whalen
6
     200
                               4001
7
     202
                  Pat Fay
                               6000
                  William Gietz
8
     206
                               8300
```

```
\dot{\Box}/*3. Write a query to display the information of department managed by the manager with
    the most experience (the one who got the job first).
    */
   ESELECT *
    FROM DEPARTMENTS
    WHERE MANAGER_ID IN(
        SELECT EMPLOYEE_ID
        FROM EMPLOYEES
        WHERE HIRE_DAT IN
            (SELECT MIN(HIRE_DAT)
            FROM EMPLOYEES E
            INNER JOIN DEPARTMENTS D
            ON E.EMPLOYEE ID = D.MANAGER ID));
100 % ▼ 4
⊞ Результаты 🗐 Сообщения
    DEPARTMENT_ID DEPARTMENT_NAME MANAGER_ID LOCATION_ID
                 Executive
    \dot{arphi}/^*4. Write a query to display the list of employees with the longest full name (don't
     consider spaces).*/
    ESELECT *
     FROM EMPLOYEES
     WHERE LEN(REPLACE(FULL_NAME, ' ', '')) IN (
         SELECT MAX(LEN(REPLACE(FULL_NAME, ' ', '')))
         FROM EMPLOYEES);
 100 % ▼ ◀
 Ш Результаты 🛍 Сообщения
     EMPLOYEE_ID FULL_NAME
                             EMAIL
                                     PHONE_NUMBER HIRE_DAT JOB_ID SALARY DEPARTMENT_ID
                 Michael Hartstein MHARTSTE 515.123.5555 1996-02-17 MK_MAN 13000
     /*5. Write a query to display the average salary for the most numerous department.*/
   □SELECT AVG(SALARY)
     AS AVG_SALARY
     FROM EMPLOYEES
     GROUP BY DEPARTMENT_ID
     HAVING COUNT(DEPARTMENT_ID) = (
         SELECT MAX(COUNT_D)
         FROM (
             SELECT COUNT(DEPARTMENT_ID) AS COUNT_D
             FROM EMPLOYEES
             GROUP BY DEPARTMENT ID) AS MAX COUNT D);
100 % ▼ ◀
AVG_SALARY
    3500
```

```
\dot{\dot{\Box}}/*6. Write a query to display in which departments the minimum salary is greater than the
     minimum salary in the 50th department.*/
   SELECT DEPARTMENT_NAME
     FROM DEPARTMENTS
     WHERE DEPARTMENT_ID IN (
         SELECT DEPARTMENT_ID
         FROM EMPLOYEES
         GROUP BY DEPARTMENT_ID
         HAVING MIN(SALARY) > (
             SELECT MIN(SALARY)
             FROM EMPLOYEES
             WHERE DEPARTMENT_ID = 50));
100 % ▼ 4
⊞ Результаты 🗐 Сообщения
     DEPARTMENT_NAME
     Administration
2
     Marketing
     IT
3
     Sales
     Accounting
```



```
/*8. Write a query to display the department names for each employee using JOIN.*/
    SELECT FULL_NAME, DEPARTMENT_NAME
      FROM EMPLOYEES E
      JOIN DEPARTMENTS D
     ON E.DEPARTMENT_ID = D.DEPARTMENT_ID;
100 % ▼ 4
Ш Результаты 🗐 Сообщения
     FULL_NAME
                      DEPARTMENT NAME
     Steven King
                      Administration
      Neena Kochhar
                      Administration
2
3
      Lex De Haan
                      Administration
      Alexander Hunold IT
4
                      IT
5
      Bruce Ernst
6
      Diana Lorentz
                      IT
7
      Kevin Mourgos
                      Shipping
8
      Trenna Rajs
                      Shipping
9
      Curtis Davies
                      Shipping
     Randall Matos
 10
                      Shipping
                      Shipping
 11
      Peter Vargas
     Eleni Zlotkey
 12
                      Sales
 13
     Ellen Abel
                      Sales
     Jonathon Taylor
                      Sales
 15
     Kimberely Grant
                     Sales
     Jennifer Whalen Administration
 16
 17
     Michael Hartstein Marketing
     Pat Fay
                      Marketing
 18
 19
      Shelley Higgins
                      Accounting
      William Gietz
20
                     Accounting
```



```
/*10. Write a query to display the JOB_Grade for each employee.*/
   SELECT FULL_NAME, GRA
     FROM EMPLOYEES E
     JOIN JOB_GRADES J
     ON J.LOWEST_SAL <= E.SALARY AND E.SALARY <= J.HIGHEST_SAL;
100 % ▼ ◀
FULL_NAME
                    GRA
    Randall Matos
                    Α
2
     Peter Vargas
                    Α
3
     Diana Lorentz
4
     Kevin Mourgos
                     В
5
     Trenna Rajs
                     В
                     В
6
     Curtis Davies
     Jennifer Whalen
                     В
7
     Alexander Hunold
                    С
8
     Bruce Ernst
                     С
                     С
     Eleni Zlotkey
 10
     Jonathon Taylor
                     С
 11
                     С
     Kimberely Grant
 12
                     С
 13
     Pat Fay
                     С
     William Gietz
 14
                     D
     Ellen Abel
 15
     Michael Hartstein
                     D
 16
                     D
 17
     Shelley Higgins
                     Е
     Steven King
 18
     Neena Kochhar
                     Ε
 19
```

Е

20

Lex De Haan

```
\dot{oxdot}/*11. Write a query to display the full name, job title, department name of employee, and hire
     date for all the jobs which started on or after 1st of January, 1995 and ending with on or
     before 11th of Febraury, 2021 and whose GRA is A, B or C.
    SELECT FULL NAME, JOB ID, DEPARTMENT NAME, HIRE DAT
     FROM EMPLOYEES E
     JOIN DEPARTMENTS D
     ON E.DEPARTMENT_ID = D.DEPARTMENT_ID
     JOIN JOB_GRADES J
     ON J.LOWEST_SAL <= E.SALARY AND E.SALARY <= J.HIGHEST_SAL
  WHERE '1995-01-01' <= HIRE_DAT AND '2021-02-11' >= HIRE_DAT AND (GRA = 'A' OR GRA = 'B' OR GRA = 'C');
100 % ▼ ◀
III Результаты 🔋 Сообщения

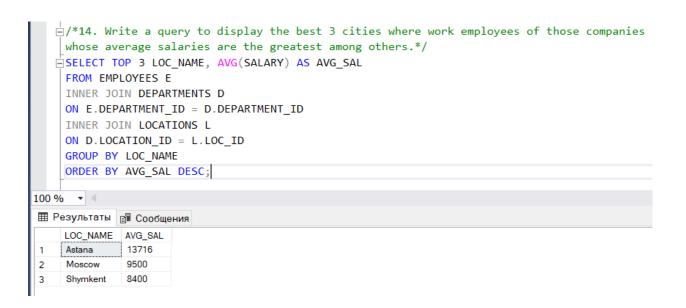
        FULL_NAME
        JOB_ID
        DEPARTMENT_NAME
        HIRE_DAT

        Pat Fay
        MK_REP
        Marketing
        1997-08-1

                             Marketing
    Pat Fay
                                                 1997-08-17
    Randall Matos SH_CLERK Shipping
                                                 1998-03-15
                   SH_CLERK Shipping
    Peter Vargas
                                                 1998-07-09
3
4
     Kevin Mourgos
                   SH_MAN
                              Shipping
                                                 1999-11-16
                   SH_CLERK Shipping
5
    Trenna Rajs
                                                 1995-10-17
    Curtis Davies
                   SH_CLERK Shipping
                                                 1997-01-29
6
     Diana Lorentz
7
                   IT_PROG
                                                 1999-02-07
    Eleni Zlotkey
                   SA_MAN
                              Sales
                                                 2000-01-29
8
                             Sales
9
     Jonathon Taylor SA_REP
                                                 1998-03-24
10
     Kimberely Grant SA_REP
                              Sales
                                                 1999-05-24
```

```
/*12. Write a query to display the name of the cities for each employee.*/
    SELECT FULL_NAME, LOC_NAME
     FROM EMPLOYEES E
     INNER JOIN DEPARTMENTS D
     ON E.DEPARTMENT_ID = D.DEPARTMENT_ID
     INNER JOIN LOCATIONS L
     ON D.LOCATION_ID = L.LOC_ID;
100 % ▼ ◀
FULL NAME
                     LOC_NAME
     Steven King
                     Astana
 1
 2
     Neena Kochhar
                     Astana
     Lex De Haan
                     Astana
3
 4
     Alexander Hunold
                     Almaty
5
     Bruce Ernst
                     Almaty
     Diana Lorentz
                     Almaty
     Kevin Mourgos
                     Omsk
8
     Trenna Rajs
                     Omsk
9
     Curtis Davies
                     Omsk
 10
     Randall Matos
                     Omsk
     Peter Vargas
 11
                     Omsk
 12
     Eleni Zlotkey
                     Shymkent
     Ellen Abel
                     Shymkent
 13
 14
     Jonathon Taylor
                     Shymkent
     Kimberely Grant
                     Shymkent
 15
     Jennifer Whalen
                     Astana
 16
     Michael Hartstein
 17
                     Moscow
     Pat Fay
                     Moscow
 18
     Shelley Higgins
 19
                     Astana
     William Gietz
 20
                     Astana
```

```
\dot{phi}/st 13. Write a query to display the name of the cities for each employee and show their
     monthly and annual mandatory pension contributions (10% of the salary) indicating the
     column 'montly_pension_contribution', 'annual_pension_contribution' and show also
     medicine contributions for the rest money (10% of the remained salary after pension
     contributions).*/
   SELECT FULL_NAME, LOC_NAME,
     SALARY / 10 AS MONTHLY_PENSION_CONTRIBUTION,
     SALARY / 10 * 12 AS ANNUAL_PENSION_CONTRIBUTION,
     (SALARY - SALARY / 10) / 10 AS MEDICINE_CONTRIBUTIONS
     FROM EMPLOYEES E
     INNER JOIN DEPARTMENTS D
     ON E.DEPARTMENT_ID = D.DEPARTMENT_ID
     INNER JOIN LOCATIONS L
  ON D.LOCATION_ID = L.LOC_ID;
100 % ▼ <
⊞ Результаты 🗐 Сообщения
     FULL_NAME
                    LOC_NAME
                               MONTHLY_PENSION_CONTRIBUTION | ANNUAL_PENSION_CONTRIBUTION | MEDICINE_CONTRIBUTIONS
    Steven King
                               2400
                                                              28800
                    Astana
                                                                                           2160
2
     Neena Kochhar
                    Astana
                               1700
                                                                                           1530
3
     Lex De Haan
                    Astana
                               1700
                                                              20400
                                                                                           1530
                               900
                                                              10800
                                                                                           810
     Alexander Hunold Almaty
4
5
     Bruce Ernst
                    Almaty
                               600
                                                              7200
                                                                                           540
6
     Diana Lorentz
                    Almaty
                               400
                                                              4800
                                                                                           360
     Kevin Mourgos
                               580
                                                              6960
7
                    Omsk
                                                                                           522
8
     Trenna Rajs
                    Omsk
                                                              4200
 9
     Curtis Davies
                    Omsk
                               310
                                                              3720
                                                                                           279
     Randall Matos
                               260
 10
                    Omsk
                                                              3120
                                                                                           234
     Peter Vargas
                    Omsk
                               250
                                                              3000
                                                                                           225
 11
 12
     Eleni Zlotkey
                    Shymkent
                               700
                                                              8400
                                                                                           630
 13
     Ellen Abel
                    Shymkent
                               1100
                                                              13200
                                                                                           990
 14
     Jonathon Taylor
                    Shymkent
                               860
                                                              10320
                                                                                           774
     Kimberely Grant
                    Shymkent
                               700
                                                              8400
                                                                                           630
 15
                               400
                                                              4800
                                                                                           360
 16
     Jennifer Whalen
                    Astana
 17
     Michael Hartstein
                    Moscow
                               1300
                                                              15600
                                                                                           1170
 18
     Pat Fay
                    Moscow
                               600
                                                              7200
                                                                                           540
     Shelley Higgins
                               1200
                                                              14400
                                                                                           1080
 19
                    Astana
 20
     William Gietz
                    Astana
                               830
                                                              9960
                                                                                           747
```



```
_{\Box}^{\perp}/*15. The 142nd and 144th employees work in the same department. Write a query to display
    only their colleagues, without a manager.*/
   SELECT FULL_NAME AS COLLEAGUES
    FROM EMPLOYEES E
    INNER JOIN DEPARTMENTS \mathbf{D}
    ON E.DEPARTMENT_ID = D.DEPARTMENT_ID
    WHERE D.DEPARTMENT_ID = 50 AND E.EMPLOYEE_ID != 144 AND E.EMPLOYEE_ID != 142 AND E.EMPLOYEE_ID != D.MANAGER_ID;
100 % ▼ <
COLLEAGUES
   Trenna Rajs
   Randall Matos
    _{\Box}^{-}/st16. Write a query to display all the information about the employees whose
     department location is <select any city from the table LOCATIONS at your
     discretion>.*/
    SELECT EMPLOYEE_ID, LOC_NAME,
     FULL_NAME, EMAIL, PHONE_NUMBER,
     HIRE_DAT, JOB_ID,
     SALARY, E.DEPARTMENT_ID
     FROM EMPLOYEES E
     INNER JOIN DEPARTMENTS D
     ON E.DEPARTMENT ID = D.DEPARTMENT ID
     INNER JOIN LOCATIONS L
     ON D.LOCATION_ID = L.LOC_ID
     WHERE LOC_NAME = 'Astana';
100 % ▼ 4
 Ш Результаты 🛍 Сообщения
     EMPLOYEE_ID LOC_NAME FULL_NAME
                                                   PHONE_NUMBER HIRE_DAT JOB_ID
                                                                                        SALARY DEPARTMENT_ID
                                          EMAIL
     100
                  Astana
                            Steven King
                                          SKING
                                                   515.123.4567
                                                                  1987-06-17 AD_PRES
                                                                                        24000
                                                                                                10
                                                                  1989-09-21 AD_VP
 2
     101
                            Neena Kochhar
                                          NKOCHAR 515.123.4568
                                                                                        17000
                                                                                                10
                                                                  1993-03-13 AD_VP
                                                                                        17000
     102
                            Lex De Haan
                                          I DEHAA
                                                   515 123 4569
                                                                                                10
 3
                  Astana
                            Jennifer Whalen JWHALEN 515.123.4444
                                                                 1987-09-17 AD_ASST
     200
                                                                                        4001
                                                                                                10
 4
                  Astana
 5
     205
                            Shelley Higgins SHIGGINS 515.123.8080
                                                                 1994-06-07 AC_MGR
                                                                                        12000
                                                                                               110
     206
                            William Gietz WGIETZ 515.123.8181
                                                                 1994-06-07 AC_ACCOUNT 8300
                                                                                               110
```

6

Astana

```
\dot{\Box}/*17. Write a query to display all employees who are not managers.
     */
   SELECT FULL_NAME
     FROM EMPLOYEES
     WHERE EMPLOYEE_ID NOT IN(
          SELECT MANAGER_ID
          FROM DEPARTMENTS
          WHERE MANAGER_ID IS NOT NULL);
100 %
Ш Результаты 📴 Сообщения
     FULL_NAME
     Neena Kochhar
2
     Lex De Haan
3
     Bruce Ernst
     Diana Lorentz
     Trenna Rajs
5
     Curtis Davies
     Randall Matos
     Peter Vargas
     Ellen Abel
     Jonathon Taylor
 10
     Kimberely Grant
 11
 12
     Pat Fay
 13
     William Gietz
```

```
/*18. Write a query to display the city of the employee whose ID <select ID>*/

□SELECT LOC_NAME

FROM LOCATIONS L

INNER JOIN DEPARTMENTS D

ON L.LOC_ID = D.LOCATION_ID

INNER JOIN EMPLOYEES E

ON D.DEPARTMENT_ID = E.DEPARTMENT_ID

WHERE E.EMPLOYEE_ID = 100;

100 %

□ Pesyльтаты
□ Cooбщения

LOC_NAME

1 Astana
```

```
/*19. Write a query to display the number of subordinates for each manager.*/
   SELECT MANAGER ID, COUNT(EMPLOYEE ID) AS NUM OF SUBORD
    FROM EMPLOYEES E
    INNER JOIN DEPARTMENTS D
    ON E.DEPARTMENT_ID = D.DEPARTMENT_ID
    WHERE EMPLOYEE ID NOT IN (
        SELECT MANAGER_ID
        FROM (
            SELECT D.DEPARTMENT_ID, MANAGER_ID, EMPLOYEE_ID
            FROM EMPLOYEES E
            INNER JOIN DEPARTMENTS D
            ON E.DEPARTMENT_ID = D.DEPARTMENT_ID) AS FULL_TABLE)
    GROUP BY MANAGER_ID;
100 % ▼ ◀
```

Ⅲ Результаты № Сообщения

| | MANAGER_ID | NUM_OF_SUBORD |
|---|------------|---------------|
| 1 | 103 | 2 |
| 2 | 124 | 4 |
| 3 | 149 | 3 |
| 4 | 200 | 3 |
| 5 | 201 | 1 |
| 6 | 205 | 1 |

```
/*20. Write a query to display all the information about a manager who is also a subordinate.*/
   SELECT * FROM EMPLOYEES
    WHERE EMPLOYEE_ID IN(
        SELECT MANAGER ID
        FROM DEPARTMENTS
        WHERE MANAGER_ID IN(
             SELECT EMPLOYEE_ID AS ID_OF_SUBORD
             FROM EMPLOYEES E
            INNER JOIN DEPARTMENTS D
             ON E.DEPARTMENT_ID = D.DEPARTMENT_ID
             WHERE EMPLOYEE_ID NOT IN (
                SELECT MANAGER ID
                FROM (
                    SELECT D.DEPARTMENT_ID, MANAGER_ID, EMPLOYEE_ID
                    FROM EMPLOYEES E
                    INNER JOIN DEPARTMENTS D
                    ON E.DEPARTMENT_ID = D.DEPARTMENT_ID) AS FULL_TABLE)));
100 % ▼ 4
⊞ Результаты 🗐 Сообщения
    EMPLOYEE_ID FULL_NAME EMAIL PHONE_NUMBER HIRE_DAT JOB_ID SALARY DEPARTMENT_ID
1 100
               Steven King SKING 515.123.4567 1987-06-17 AD_PRES 24000
```

```
\dot{\exists} /*21. Write a query to display the country name, city, and number of those departments where
    at least 2 employees are working.*/
   ESELECT COUNTRY_NAME, LOC_NAME AS CITY, D.DEPARTMENT_ID, NUM_OF_EMPLOYEES
    FROM COUNTRIES C
    INNER JOIN LOCATIONS L
    ON C.COUNTRY_ID = L.COUNTRY_ID
    INNER JOIN DEPARTMENTS D
    ON L.LOC_ID = D.LOCATION_ID
    INNER JOIN (
         SELECT DEPARTMENT_ID, COUNT(EMPLOYEE_ID) AS NUM_OF_EMPLOYEES
         FROM EMPLOYEES
         GROUP BY DEPARTMENT_ID) AS DEP_NUM_EMPL
    ON D.DEPARTMENT_ID = DEP_NUM_EMPL.DEPARTMENT_ID
    WHERE NUM_OF_EMPLOYEES >= 2;
100 %
Ш Результаты 🛍 Сообщения
    COUNTRY_NAME CITY
                          DEPARTMENT_ID NUM_OF_EMPLOYEES
   Kazakhstan
                 Astana
1
                          10
                  Moscow 20
2
   Russia
3
    Russia
                  Omsk
                          50
                                        5
                          60
                                        3
    Kazakhstan
                  Almatv
4
5
    Kazakhstan
                  Shymkent 80
                                        4
6
    Kazakhstan
                  Astana
                          110
                                         2
    Show all infromation about employee with MAX salary in Omsk*/
   ±SELECT 3
    FROM EMPLOYEES E
    INNER JOIN (
        SELECT LOC_NAME AS CITY, MAX(SALARY) AS MAX_SALARY_IN_CITY
        FROM EMPLOYEES E
        INNER JOIN DEPARTMENTS D
        ON E.DEPARTMENT_ID = D.DEPARTMENT_ID
        INNER JOIN LOCATIONS L
        ON D.LOCATION_ID = L.LOC_ID
```

