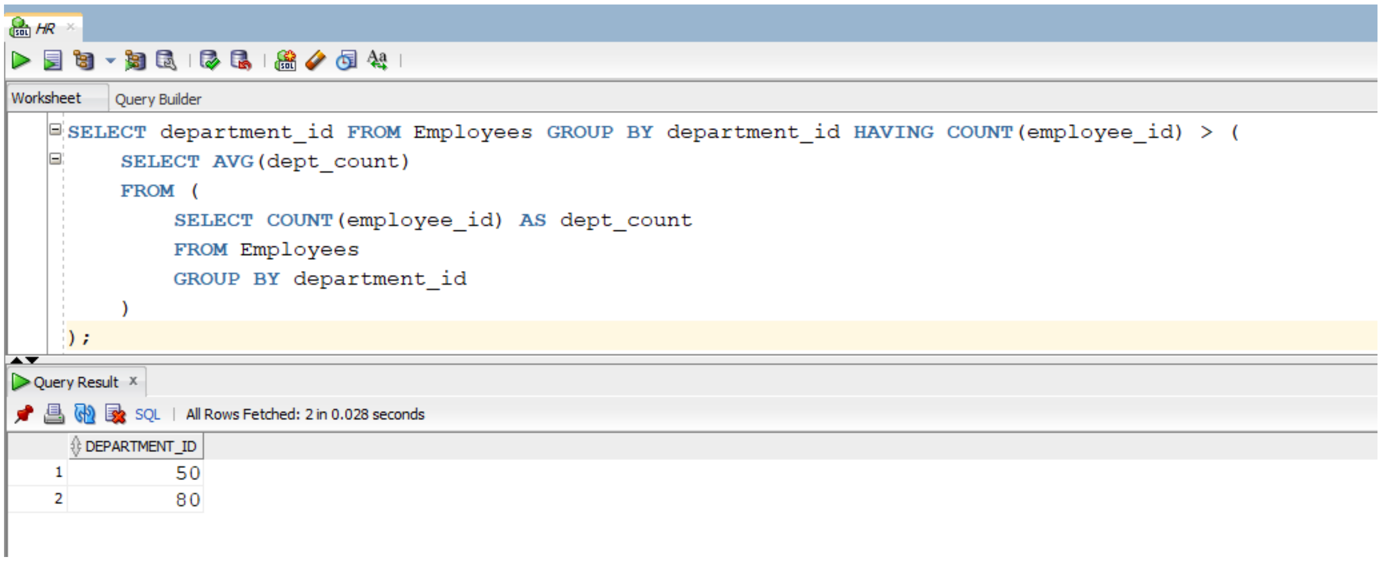
LAB 4 – HOMETASK

23K-0594

Task 1:



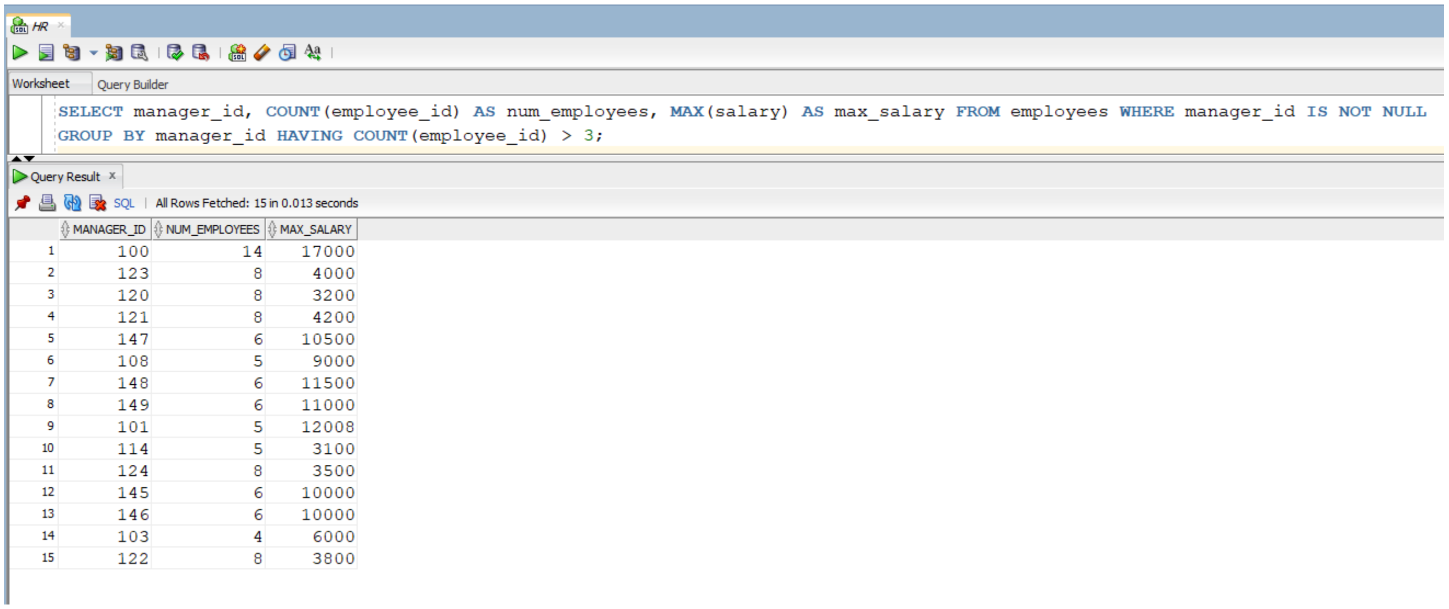
```
SELECT department_id FROM Employees GROUP BY department_id HAVING COUNT(employee_id) > (
    SELECT AVG(dept_count)
    FROM (
        SELECT COUNT(employee_id) AS dept_count
        FROM Employees
        GROUP BY department_id
    )
);
```

Query Result

All Rows Fetched: 2 in 0.028 seconds

```
   DEPARTMENT_ID
1             50
2             80
```

Task 2:



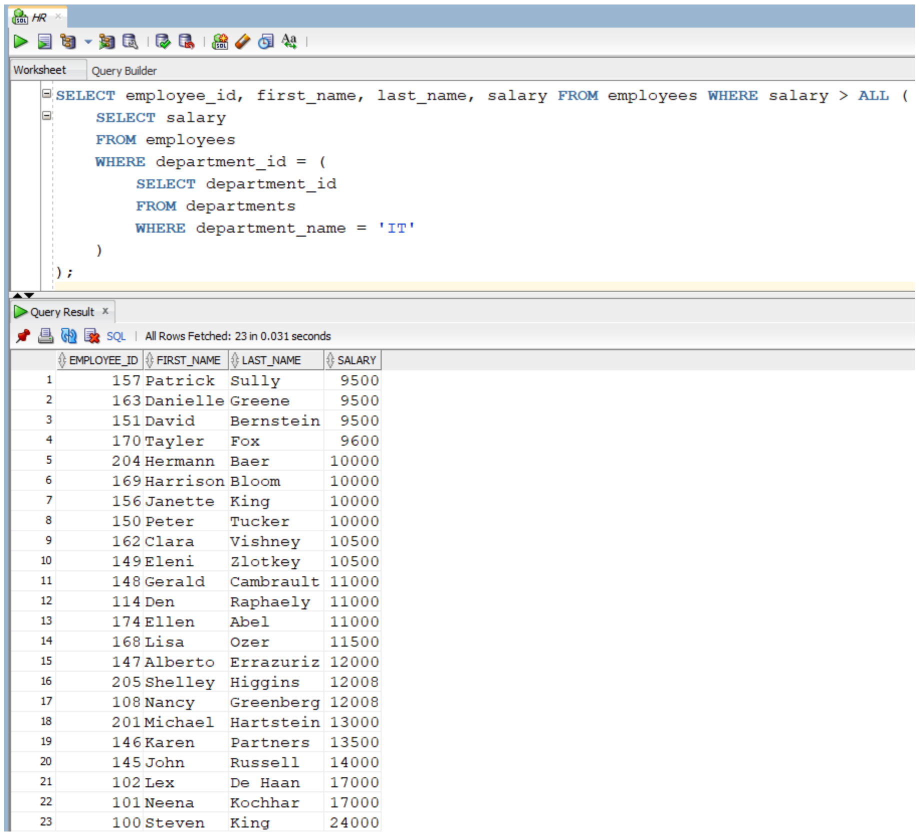
```
SELECT manager_id, COUNT(employee_id) AS num_employees, MAX(salary) AS max_salary FROM employees WHERE manager_id IS NOT NULL
GROUP BY manager_id HAVING COUNT(employee_id) > 3;
```

Query Result

All Rows Fetched: 15 in 0.013 seconds

```
    MANAGER_ID  NUM_EMPLOYEES  MAX_SALARY
1          100             14       17000
2          123              8        4000
3          120              8        3200
4          121              8        4200
5          147              6       10500
6          108              5        9000
7          148              6       11500
8          149              6       11000
9          101              5       12008
10         114              5        3100
11         124              8        3500
12         145              6       10000
13         146              6       10000
14         103              4        6000
15         122              8        3800
```

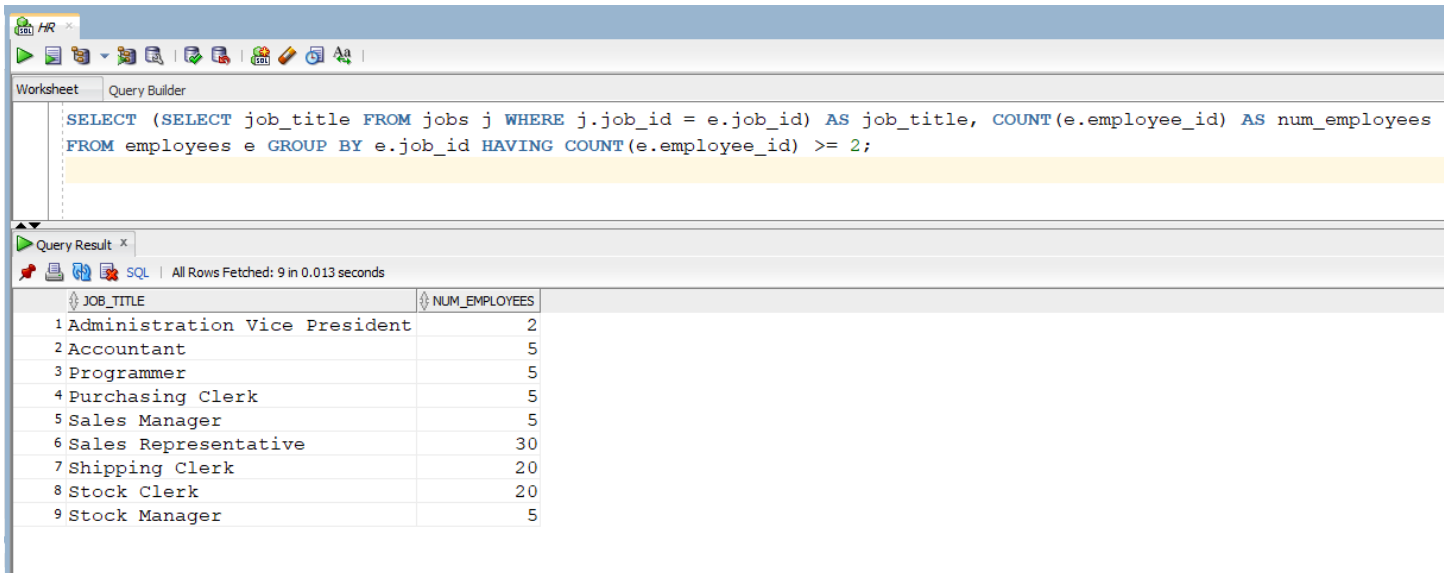
Task 3:



```sql
SELECT employee_id, first_name, last_name, salary FROM employees WHERE salary > ALL (
    SELECT salary
    FROM employees
    WHERE department_id = (
        SELECT department_id
        FROM departments
        WHERE department_name = 'IT'
    )
);
```

```
    EMPLOYEE_ID FIRST_NAME LAST_NAME  SALARY
 1          157 Patrick    Sully        9500
 2          163 Danielle   Greene       9500
 3          151 David      Bernstein    9500
 4          170 Tayler     Fox          9600
 5          204 Hermann    Baer        10000
 6          169 Harrison   Bloom       10000
 7          156 Janette    King        10000
 8          150 Peter      Tucker      10000
 9          162 Clara      Vishney     10500
10          149 Eleni      Zlotkey     10500
11          148 Gerald     Cambrault   11000
12          114 Den        Raphaely    11000
13          174 Ellen      Abel        11000
14          168 Lisa       Ozer        11500
15          147 Alberto    Errazuriz   12000
16          205 Shelley    Higgins     12008
17          108 Nancy      Greenberg   12008
18          201 Michael    Hartstein   13000
19          146 Karen      Partners    13500
20          145 John       Russell     14000
21          102 Lex        De Haan     17000
22          101 Neena      Kochhar     17000
23          100 Steven     King        24000
```

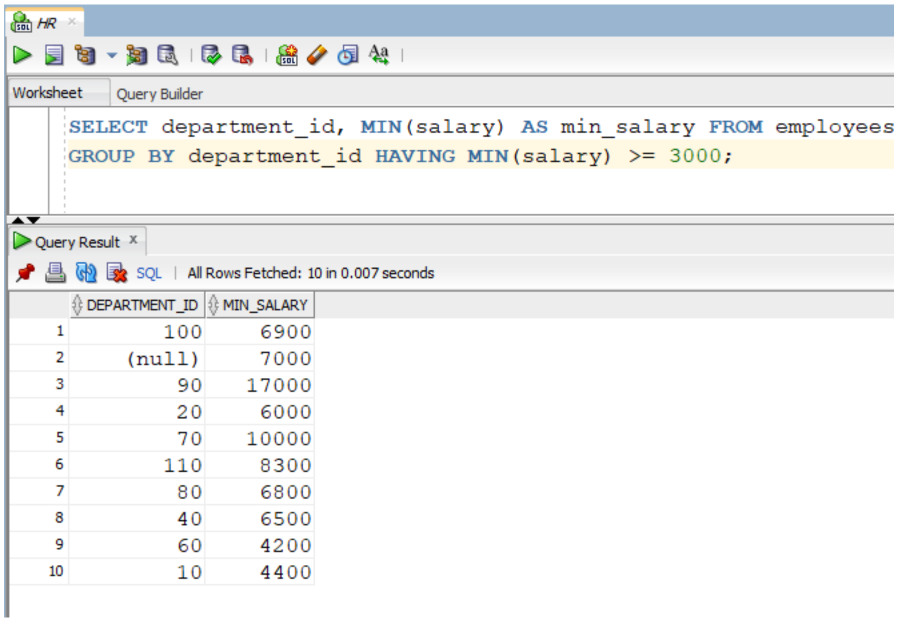
Task 4:



```sql
SELECT (SELECT job_title FROM jobs j WHERE j.job_id = e.job_id) AS job_title, COUNT(e.employee_id) AS num_employees
FROM employees e GROUP BY e.job_id HAVING COUNT(e.employee_id) >= 2;
```

```
  JOB_TITLE                      NUM_EMPLOYEES
1 Administration Vice President              2
2 Accountant                                 5
3 Programmer                                 5
4 Purchasing Clerk                           5
5 Sales Manager                              5
6 Sales Representative                      30
7 Shipping Clerk                            20
8 Stock Clerk                               20
9 Stock Manager                              5
```

Task 5:



HR

Worksheet Query Builder

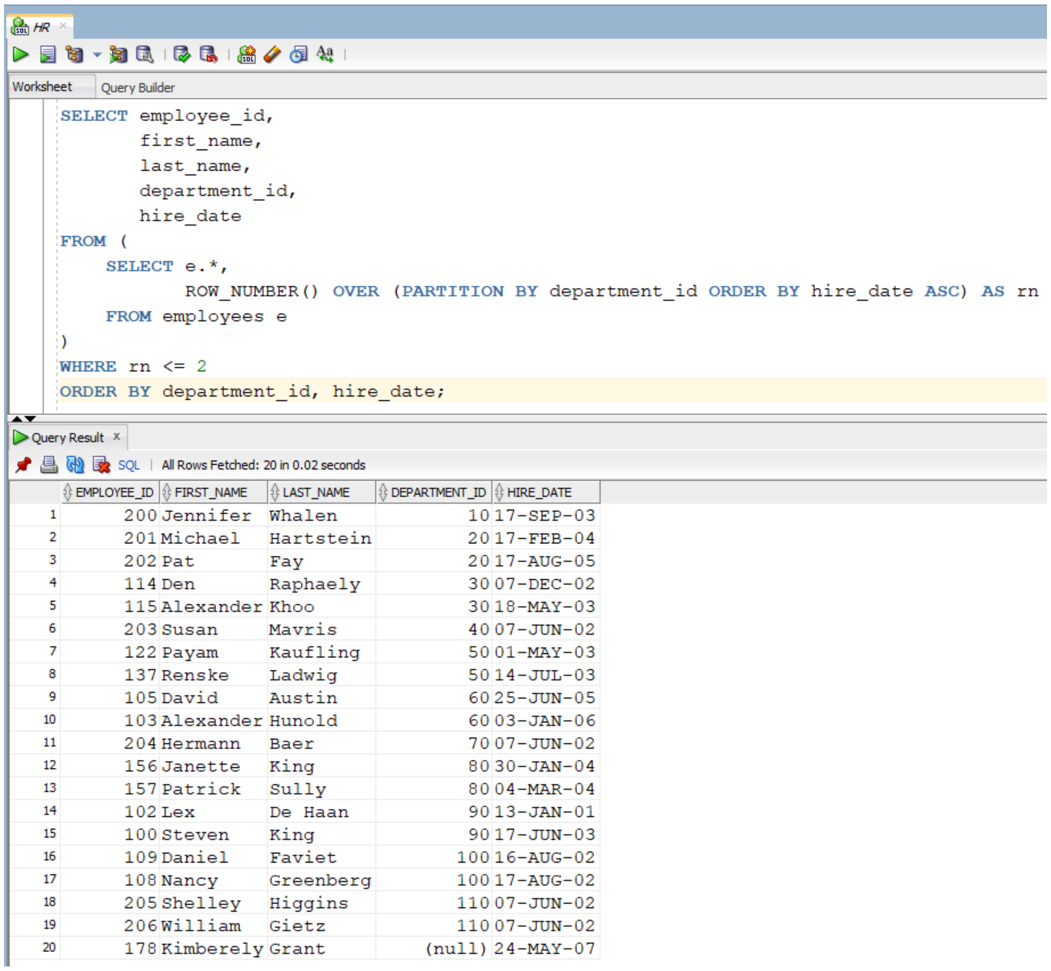
```sql
SELECT department_id, MIN(salary) AS min_salary FROM employees
GROUP BY department_id HAVING MIN(salary) >= 3000;
```

Query Result

SQL | All Rows Fetched: 10 in 0.007 seconds

```
     DEPARTMENT_ID  MIN_SALARY
 1             100        6900
 2          (null)        7000
 3              90       17000
 4              20        6000
 5              70       10000
 6             110        8300
 7              80        6800
 8              40        6500
 9              60        4200
10              10        4400
```

Task 6:



HR

Worksheet Query Builder

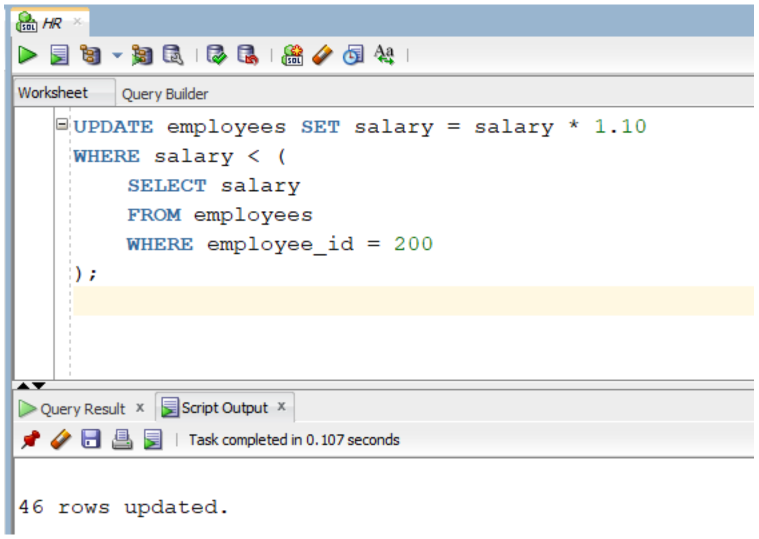
```sql
SELECT employee_id,
       first_name,
       last_name,
       department_id,
       hire_date
FROM (
    SELECT e.*,
           ROW_NUMBER() OVER (PARTITION BY department_id ORDER BY hire_date ASC) AS rn
    FROM employees e
)
WHERE rn <= 2
ORDER BY department_id, hire_date;
```

Query Result

SQL | All Rows Fetched: 20 in 0.02 seconds

```
    EMPLOYEE_ID FIRST_NAME LAST_NAME  DEPARTMENT_ID HIRE_DATE
 1          200 Jennifer   Whalen                10 17-SEP-03
 2          201 Michael    Hartstein             20 17-FEB-04
 3          202 Pat        Fay                   20 17-AUG-05
 4          114 Den        Raphaely              30 07-DEC-02
 5          115 Alexander  Khoo                  30 18-MAY-03
 6          203 Susan      Mavris                40 07-JUN-02
 7          122 Payam      Kaufling              50 01-MAY-03
 8          137 Renske     Ladwig                50 14-JUL-03
 9          105 David      Austin                60 25-JUN-05
10          103 Alexander  Hunold                60 03-JAN-06
11          204 Hermann    Baer                  70 07-JUN-02
12          156 Janette    King                  80 30-JAN-04
13          157 Patrick    Sully                 80 04-MAR-04
14          102 Lex        De Haan               90 13-JAN-01
15          100 Steven     King                  90 17-JUN-03
16          109 Daniel     Faviet               100 16-AUG-02
17          108 Nancy      Greenberg            100 17-AUG-02
18          205 Shelley    Higgins              110 07-JUN-02
19          206 William    Gietz                110 07-JUN-02
20          178 Kimberely  Grant             (null) 24-MAY-07
```

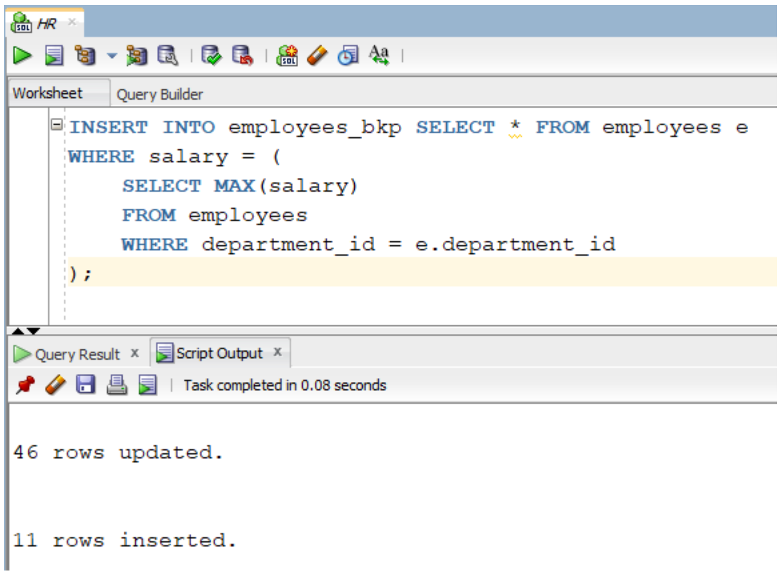
Task 7:



```
UPDATE employees SET salary = salary * 1.10
WHERE salary < (
    SELECT salary
    FROM employees
    WHERE employee_id = 200
);
```

```
46 rows updated.
```

Task 8:

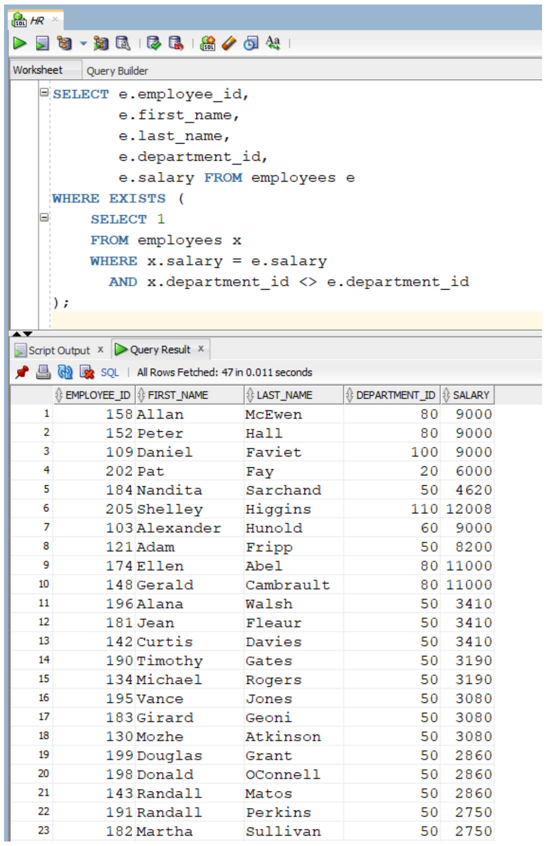


```
INSERT INTO employees_bkp SELECT * FROM employees e
WHERE salary = (
    SELECT MAX(salary)
    FROM employees
    WHERE department_id = e.department_id
);
```

```
46 rows updated.


11 rows inserted.
```

Task 9:

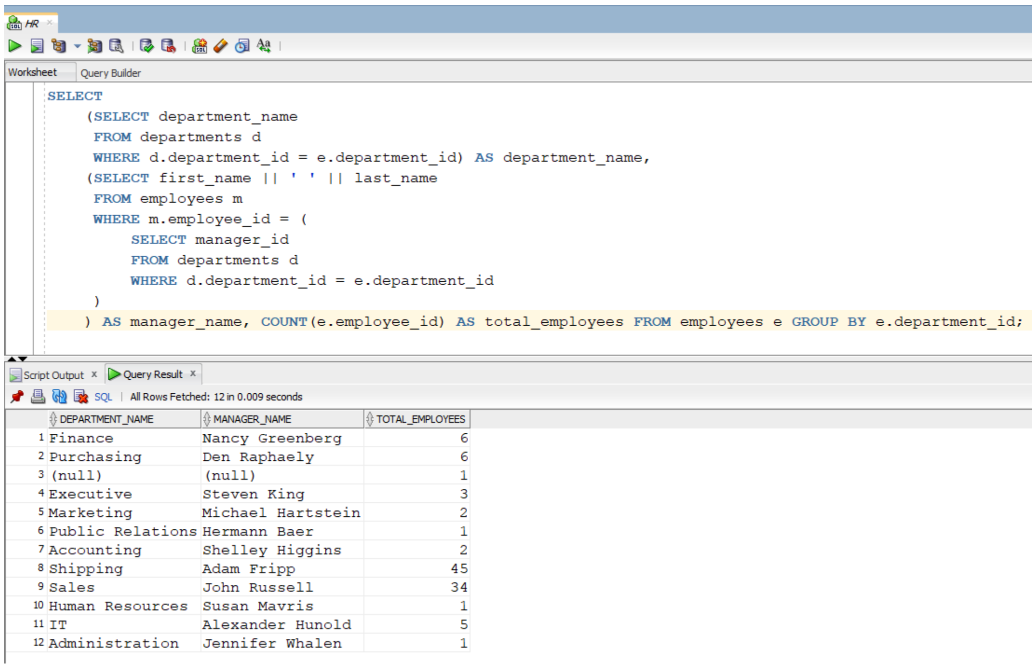


```sql
SELECT e.employee_id,
       e.first_name,
       e.last_name,
       e.department_id,
       e.salary FROM employees e
WHERE EXISTS (
    SELECT 1
    FROM employees x
    WHERE x.salary = e.salary
      AND x.department_id <> e.department_id
);
```

All Rows Fetched: 47 in 0.011 seconds

```
     EMPLOYEE_ID FIRST_NAME  LAST_NAME  DEPARTMENT_ID SALARY
 1           158 Allan       McEwen                80   9000
 2           152 Peter       Hall                  80   9000
 3           109 Daniel      Faviet               100   9000
 4           202 Pat         Fay                   20   6000
 5           184 Nandita     Sarchand              50   4620
 6           205 Shelley     Higgins              110  12008
 7           103 Alexander   Hunold                60   9000
 8           121 Adam        Fripp                 50   8200
 9           174 Ellen       Abel                  80  11000
10           148 Gerald      Cambrault             80  11000
11           196 Alana       Walsh                 50   3410
12           181 Jean        Fleaur                50   3410
13           142 Curtis      Davies                50   3410
14           190 Timothy     Gates                 50   3190
15           134 Michael     Rogers                50   3190
16           195 Vance       Jones                 50   3080
17           183 Girard      Geoni                 50   3080
18           130 Mozhe       Atkinson              50   3080
19           199 Douglas     Grant                 50   2860
20           198 Donald      OConnell              50   2860
21           143 Randall     Matos                 50   2860
22           191 Randall     Perkins               50   2750
23           182 Martha      Sullivan              50   2750
```

Task 10:



```sql
SELECT
    (SELECT department_name
     FROM departments d
     WHERE d.department_id = e.department_id) AS department_name,
    (SELECT first_name || ' ' || last_name
     FROM employees m
     WHERE m.employee_id = (
         SELECT manager_id
         FROM departments d
         WHERE d.department_id = e.department_id
     )
    ) AS manager_name, COUNT(e.employee_id) AS total_employees FROM employees e GROUP BY e.department_id;
```

All Rows Fetched: 12 in 0.009 seconds

```
   DEPARTMENT_NAME  MANAGER_NAME       TOTAL_EMPLOYEES
 1 Finance          Nancy Greenberg                  6
 2 Purchasing       Den Raphaely                     6
 3 (null)           (null)                           1
 4 Executive        Steven King                      3
 5 Marketing        Michael Hartstein                2
 6 Public Relations Hermann Baer                     1
 7 Accounting       Shelley Higgins                  2
 8 Shipping         Adam Fripp                      45
 9 Sales            John Russell                    34
10 Human Resources  Susan Mavris                     1
11 IT               Alexander Hunold                 5
12 Administration   Jennifer Whalen                  1
```