LAB-4

> CCS3400-G3
>
> LAB4
>
> YUE CHENGHAO
>
> 227154

- Question1

```
SELECT
    employee_id,
    first_name || ' ' || last_name AS full_name,
    LENGTH(last_name) AS last_name_length,
    INSTR(last_name, 'a') AS position_of_a
FROM employees
WHERE last_name LIKE '%n';
```

  - output

	EMPLOYEE_ID	FULL_NAME	LAST_NAME_LENGTH	POSITION_OF_A
1	102	Lex De Haan	7	5
2	200	Jennifer Whalen	6	3
3	201	Michael Hartstein	9	2

Question2

- code

```
SELECT SYSDATE AS "Date"
FROM dual;
```

- output

	Date
1	10/11/25

Question 3

- code

```
SELECT
    last_name,
    ROUND((SYSDATE - hire_date) / 7) AS weeks_employed
FROM employees
WHERE department_id = 60;
```

- output

	LAST_NAME	WEEKS_EMPLO...
1	Hunold	1871
2	Ernst	1799
3	Lorentz	1396

Question 4

- code

```
SELECT
    employee_id,
    last_name,
    salary,
    ROUND(salary * 1.155) AS "New Salary"
FROM employees;
```

- output

	EMPLOYEE_ID	LAST_NAME	SALARY	New Salary
1	100	King	24000	27720
2	101	Kochhar	17000	19635
3	102	De Haan	17000	19635
4	103	Hunold	9000	10395
5	104	Ernst	6000	6930
6	107	Lorentz	4200	4851
7	124	Mourgos	5800	6699
8	141	Rajs	3500	4043
9	142	Davies	3100	3581
10	143	Matos	2600	3003
11	144	Vargas	2500	2888
12	149	Zlotkey	10500	12128
13	174	Abel	11000	12705
14	176	Taylor	8600	9933
15	178	Grant	7000	8085
16	200	Whalen	4400	5082
17	201	Hartstein	13000	15015
18	202	Fay	6000	6930
19	205	Higgins	12000	13860
20	206	Gietz	8300	9587

Question 5

- code

```sql
SELECT
    employee_id,
    last_name,
    salary,
    ROUND(salary * 1.155) AS "New Salary",
    ROUND(salary * 1.155) - salary AS "Increase"
FROM employees;
```

- output


```sql
SELECT
    employee_id,
    last_name,
    salary,
    ROUND(salary * 1.155) AS "New Salary",
    ROUND(salary * 1.155) - salary AS "Increase"
FROM employees;
```


Question 6

- code

```sql
SELECT
    INITCAP(last_name) AS "Formatted Last Name",
    LENGTH(last_name) AS "Length of Last Name"
FROM employees
WHERE last_name LIKE 'J%'
   OR last_name LIKE 'A%'
   OR last_name LIKE 'M%'
ORDER BY last_name;
```

- output

	Formatted Last Name	Length of Last Name
1	Abel	4
2	Matos	5
3	Mourgos	7

Question 7

- code

```
 SELECT
    last_name,
    CEIL(MONTHS_BETWEEN(SYSDATE, hire_date)) AS MONTHS_WORKED
FROM employees
ORDER BY MONTHS_WORKED;
```

- output

	LAST_NAME	MONTHS_WORKED
1	Zlotkey	310
2	Mourgos	312
3	Grant	318
4	Lorentz	322
5	Vargas	329
6	Matos	332
7	Taylor	332
8	Fay	339
9	Davies	346
10	Abel	354
11	Hartstein	357
12	Rajs	361
13	Higgins	378
14	Gietz	378
15	De Haan	394
16	Ernst	414
17	Hunold	431
18	Kochhar	434
19	Whalen	458
20	King	461

Question 8

- code

```
--Q8
SELECT
    last_name,
    LPAD(TO_CHAR(salary), 15, '$') AS SALARY
FROM employees;
```

- output

	LAST_NAME	SALARY
1	King	$$$$$$$$$24000
2	Kochhar	$$$$$$$$$17000
3	De Haan	$$$$$$$$$17000
4	Hunold	$$$$$$$$$$9000
5	Ernst	$$$$$$$$$$6000
6	Lorentz	$$$$$$$$$$4200
7	Mourgos	$$$$$$$$$$5800
8	Rajs	$$$$$$$$$$3500
9	Davies	$$$$$$$$$$3100
10	Matos	$$$$$$$$$$2600
11	Vargas	$$$$$$$$$$2500
12	Zlotkey	$$$$$$$$$10500
13	Abel	$$$$$$$$$11000
14	Taylor	$$$$$$$$$$8600
15	Grant	$$$$$$$$$$7000
16	Whalen	$$$$$$$$$$4400
17	Hartstein	$$$$$$$$$13000
18	Fay	$$$$$$$$$$6000
19	Higgins	$$$$$$$$$12000
20	Gietz	$$$$$$$$$$8300

Question 9

- code

```
SELECT
    last_name,
    NVL(commission_pct, 0) AS COMM
FROM employees;
```

- output

	LAST_NAME	COMM
1	King	0
2	Kochhar	0
3	De Haan	0
4	Hunold	0
5	Ernst	0
6	Lorentz	0
7	Mourgos	0
8	Rajs	0
9	Davies	0
10	Matos	0
11	Vargas	0
12	Zlotkey	0.2
13	Abel	0.3
14	Taylor	0.2
15	Grant	0.15
16	Whalen	0
17	Hartstein	0
18	Fay	0
19	Higgins	0
20	Gietz	0

Question 10

- code

```sql
SELECT
    SUBSTR(last_name, 1, 8) || ' ' || RPAD('*', ROUND(salary/1000), '*')
    AS EMPLOYEES_AND_THEIR_SALARIES
FROM employees
ORDER BY salary DESC;
```

- output

	EMPLOYEES_AND_THEIR_SALARIES
1	King ************************
2	Kochhar ******************
3	De Haan ******************
4	Hartstei **************
5	Higgins **************
6	Abel ***********
7	Zlotkey ***********
8	Hunold *********
9	Taylor *********
10	Gietz ********
11	Grant *******
12	Ernst ******
13	Fay ******
14	Mourgos ******
15	Whalen ****
16	Lorentz ****
17	Rajs ****
18	Davies ***
19	Matos ***
20	Vargas ***

Question 11

- code

```
SELECT
    last_name,
    job_id,
    DECODE(job_id,
        'AD_PRES', 'A',
        'ST_MAN',  'B',
        'IT_PROG', 'C',
        'SA_REP',  'D',
        'ST_CLERK','E',
        '0') AS GRADE
FROM employees;
```

- output

	LAST_NAME	JOB_ID	GRADE
1	King	AD_PRES	A
2	Kochhar	AD_VP	0
3	De Haan	AD_VP	0
4	Hunold	IT_PROG	C
5	Ernst	IT_PROG	C
6	Lorentz	IT_PROG	C
7	Mourgos	ST_MAN	B
8	Rajs	ST_CLERK	E
9	Davies	ST_CLERK	E
10	Matos	ST_CLERK	E
11	Vargas	ST_CLERK	E
12	Zlotkey	SA_MAN	0
13	Abel	SA_REP	D
14	Taylor	SA_REP	D
15	Grant	SA_REP	D
16	Whalen	AD_ASST	0
17	Hartstein	MK_MAN	0
18	Fay	MK_REP	0
19	Higgins	AC_MGR	0
20	Gietz	AC_ACCOUNT	0

Question 12

- code

```
SELECT
    last_name,
    job_id,
    CASE
        WHEN job_id = 'AD_PRES' THEN 'A'
        WHEN job_id = 'ST_MAN'  THEN 'B'
        WHEN job_id = 'IT_PROG' THEN 'C'
        WHEN job_id = 'SA_REP'  THEN 'D'
        WHEN job_id = 'ST_CLERK' THEN 'E'
        ELSE '0'
    END AS GRADE
FROM employees;
```

- output

	LAST_NAME	JOB_ID	GRADE
1	King	AD_PRES	A
2	Kochhar	AD_VP	0
3	De Haan	AD_VP	0
4	Hunold	IT_PROG	C
5	Ernst	IT_PROG	C
6	Lorentz	IT_PROG	C
7	Mourgos	ST_MAN	B
8	Rajs	ST_CLERK	E
9	Davies	ST_CLERK	E
10	Matos	ST_CLERK	E
11	Vargas	ST_CLERK	E
12	Zlotkey	SA_MAN	0
13	Abel	SA_REP	D
14	Taylor	SA_REP	D
15	Grant	SA_REP	D
16	Whalen	AD_ASST	0
17	Hartstein	MK_MAN	0
18	Fay	MK_REP	0
19	Higgins	AC_MGR	0
20	Gietz	AC_ACCOUNT	0