Generalitat de Catalunya Departament d'Ensenyament	**Activitat A03**	institut sa palomera
M02. Base de dades		**UF2. SQL**

Ús de funcions de fila única en instruccions SQL simples

Part 1. BDD HR.

1. Escriu una consulta per a mostrar la data actual. Etiqueta la columna amb el nom "Date". (1 punt)

```
1  select now()::date as date;
```

1 row returned

	date date
1	2023-11-16

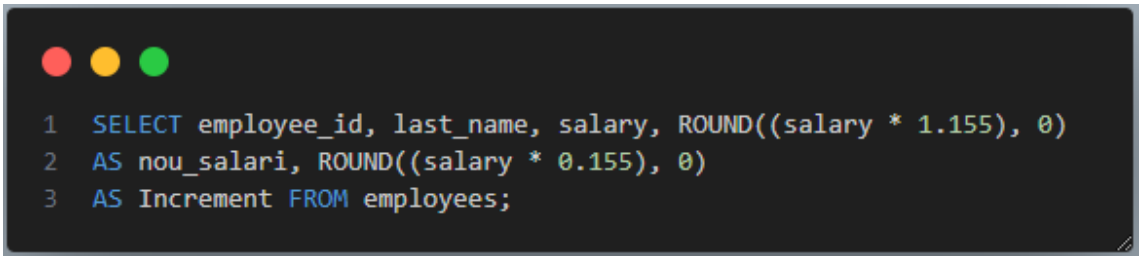
2. Per a cada empleat, mostra el número d'empleat, el cognom, el salari i el salari amb un augment del 15.5% i expressat amb número enter, etiqueteu-lo com **nou salari**. (1 punt)

```
1  SELECT employee_id, last_name, salary, round((salary * 1.155),0)
2  AS nou_salari
3  FROM employees;
```

40 rows returned

	employee_id integer	last_name character varying	salary numeric	nou_salari numeric
1	100	King	24000.00	27720
2	101	Kochhar	17000.00	19635
3	102	De Haan	17000.00	19635
4	103	Hunold	9000.00	10395
5	104	Ernst	6000.00	6930
6	105	Austin	4800.00	5544
7	106	Pataballa	4800.00	5544
8	107	Lorentz	4200.00	4851
9	108	Greenberg	12000.00	13860
10	109	Faviet	9000.00	10395
11	110	Chen	8200.00	9471
12	111	Sciarra	7700.00	8894
13	112	Urman	7800.00	9009
14	113	Popp	6900.00	7970
15	114	Raphaely	11000.00	12705
16	115	Khoo	3100.00	3581
17	116	Baida	2900.00	3350
18	117	Tobias	2800.00	3234
19	118	Himuro	2600.00	3003
20	119	Colmenares	2500.00	2888
21	120	Weiss	8000.00	9240
22	121	Fripp	8200.00	9471
21	120	Weiss	8000.00	9240
22	121	Fripp	8200.00	9471
23	122	Kaufling	7900.00	9125
24	123	Vollman	6500.00	7508
25	126	Mikkilineni	2700.00	3119
26	145	Russell	14000.00	16170
27	146	Partners	13500.00	15593
28	176	Taylor	8600.00	9933
29	177	Livingston	8400.00	9702
30	178	Grant	7000.00	8085
31	179	Johnson	6200.00	7161
32	192	Bell	4000.00	4620
33	193	Everett	3900.00	4505
34	200	Whalen	4400.00	5082
35	201	Hartstein	13000.00	15015
36	202	Fay	6000.00	6930
37	203	Mavris	6500.00	7508
38	204	Baer	10000.00	11550
39	205	Higgins	12000.00	13860
40	206	Gietz	8300.00	9587

3. Modifica la consulta anterior per afegir una columna que resti el salari antic al nou. Etiqueteu la columna com **Increment**. (1 punt)



```
1  SELECT employee_id, last_name, salary, ROUND((salary * 1.155), 0)
2  AS nou_salari, ROUND((salary * 0.155), 0)
3  AS Increment FROM employees;
```

40 rows returned

	employee_id integer	last_name character varying	salary numeric	nou_salari numeric	increment numeric
1	100	King	24000.00	27720	3720
2	101	Kochhar	17000.00	19635	2635
3	102	De Haan	17000.00	19635	2635
4	103	Hunold	9000.00	10395	1395
5	104	Ernst	6000.00	6930	930
6	105	Austin	4800.00	5544	744
7	106	Pataballa	4800.00	5544	744
8	107	Lorentz	4200.00	4851	651
9	108	Greenberg	12000.00	13860	1860
10	109	Faviet	9000.00	10395	1395
11	110	Chen	8200.00	9471	1271
12	111	Sciarra	7700.00	8894	1194
13	112	Urman	7800.00	9009	1209
14	113	Popp	6900.00	7970	1070
15	114	Raphaely	11000.00	12705	1705
16	115	Khoo	3100.00	3581	481
17	116	Baida	2900.00	3350	450
18	117	Tobias	2800.00	3234	434
19	118	Himuro	2600.00	3003	403
20	119	Colmenares	2500.00	2888	388
21	120	Weiss	8000.00	9240	1240
22	121	Fripp	8200.00	9471	1271
21	120	Weiss	8000.00	9240	1240
22	121	Fripp	8200.00	9471	1271
23	122	Kaufling	7900.00	9125	1225
24	123	Vollman	6500.00	7508	1008
25	126	Mikkilineni	2700.00	3119	419
26	145	Russell	14000.00	16170	2170
27	146	Partners	13500.00	15593	2093
28	176	Taylor	8600.00	9933	1333
29	177	Livingston	8400.00	9702	1302
30	178	Grant	7000.00	8085	1085
31	179	Johnson	6200.00	7161	961
32	192	Bell	4000.00	4620	620
33	193	Everett	3900.00	4505	605
34	200	Whalen	4400.00	5082	682
35	201	Hartstein	13000.00	15015	2015
36	202	Fay	6000.00	6930	930
37	203	Mavris	6500.00	7508	1008
38	204	Baer	10000.00	11550	1550
39	205	Higgins	12000.00	13860	1860
40	206	Gietz	8300.00	9587	1287

Ús de funcions de fila única en instruccions SQL simples

4. Escriviu una consulta que mostri de tots els empleats els cognoms dels quals comencin per J, A o M, el cognom de l'empleat, el email amb la primera lletra en majúscules així com la longitud del cognom. Ordeneu els resultats alfabèticament per el cognom de l'empleat. (2 punts)

```sql
SELECT last_name,CONCAT(UPPER(LEFT(email, 1)), LOWER(SUBSTRING(email, 2)))
AS email_majuscules, LENGTH(last_name) AS longitud
FROM employees WHERE last_name
LIKE 'J%' OR last_name LIKE 'A%'
OR last_name LIKE 'M%' ORDER BY last_name;
```

4 rows returned

	last_name character varying	email_majuscules text	longitud integer
1	Austin	David.austin@sqltutorial.org	6
2	Johnson	Charles.johnson@sqltutorial.org	7
3	Mavris	Susan.mavris@sqltutorial.org	6
4	Mikkilineni	Irene.mikkilineni@sqltutorial.org	11

5. Per a cada empleat, mostreu el seu cognom i calculeu el número de mesos entre el dia d'avui i la data de contractació. Etiqueteu la columna com **mesos treballats**, ordeneu els resultats segons el número de mesos treballats. Arrodoniu el número de mesos cap amunt fins el número enter més proper. (2 punts)

```sql
SELECT last_name,
CEILING(EXTRACT(YEAR FROM AGE(CURRENT_DATE, hire_date)) * 12 + EXTRACT(MONTH FROM AGE(CURRENT_DATE, hire_date)))
AS "Mesos treballats"
FROM employees
ORDER BY "Mesos treballats" ASC;
```

40 rows returned

	last_name character varying	Mesos treballats numeric
1	Johnson	286
2	Popp	287
3	Colmenares	291
4	Grant	293
5	Lorentz	297
6	Himuro	300
7	Mikkilineni	301
8	Livingston	306
9	Taylor	307
10	Urman	308
11	Pataballa	309
12	Baida	310
13	Sciarra	313
14	Chen	313
15	Vollman	313
16	Fay	314
17	Tobias	315
18	Austin	316
19	Fripp	319
20	Everett	320
21	Partners	322
22	Russell	325
23	Weiss	327
24	Hartstein	332
25	Bell	333
26	Khoo	341
27	Kaufling	342
28	Raphaely	347
29	Greenberg	350
30	Faviet	351
31	Gietz	353
32	Mavris	353
33	Baer	353
34	Higgins	353
35	De Haan	370
36	Ernst	389
37	Hunold	406
38	Kochhar	409
39	Whalen	433
40	King	436

Ús de funcions de fila única en instruccions SQL simples

6. Creeu una consulta per a mostrar el cognom i el salari de tots els empleats. Formateu el salari per a que tingui 15 caràcters de longitud, ompliu a l'esquerra amb $. Etiqueteu la columna **SALARY**. (2 punts)

```sql
SELECT last_name, LPAD(TO_CHAR(salary, 'FM99999999'), 15, '$')
AS SALARY
FROM employees;
```

40 rows returned

	last_name character varying	salary text
1	King	$$$$$$$$$$24000
2	Kochhar	$$$$$$$$$$17000
3	De Haan	$$$$$$$$$$17000
4	Hunold	$$$$$$$$$$9000
5	Ernst	$$$$$$$$$$6000
6	Austin	$$$$$$$$$$4800
7	Pataballa	$$$$$$$$$$4800
8	Lorentz	$$$$$$$$$$4200
9	Greenberg	$$$$$$$$$$12000
10	Faviet	$$$$$$$$$$9000
11	Chen	$$$$$$$$$$8200
12	Sciarra	$$$$$$$$$$7700
13	Urman	$$$$$$$$$$7800
14	Popp	$$$$$$$$$$6900
15	Raphaely	$$$$$$$$$$11000
16	Khoo	$$$$$$$$$$3100
17	Baida	$$$$$$$$$$2900
18	Tobias	$$$$$$$$$$2800
19	Himuro	$$$$$$$$$$2600
20	Colmenares	$$$$$$$$$$2500
21	Weiss	$$$$$$$$$$8000
22	Fripp	$$$$$$$$$$8200
21	Weiss	$$$$$$$$$$8000
22	Fripp	$$$$$$$$$$8200
23	Kaufling	$$$$$$$$$$7900
24	Vollman	$$$$$$$$$$6500
25	Mikkilineni	$$$$$$$$$$2700
26	Russell	$$$$$$$$$$14000
27	Partners	$$$$$$$$$$13500
28	Taylor	$$$$$$$$$$8600
29	Livingston	$$$$$$$$$$8400
30	Grant	$$$$$$$$$$7000
31	Johnson	$$$$$$$$$$6200
32	Bell	$$$$$$$$$$4000
33	Everett	$$$$$$$$$$3900
34	Whalen	$$$$$$$$$$4400
35	Hartstein	$$$$$$$$$$13000
36	Fay	$$$$$$$$$$6000
37	Mavris	$$$$$$$$$$6500
38	Baer	$$$$$$$$$$10000
39	Higgins	$$$$$$$$$$12000
40	Gietz	$$$$$$$$$$8300

Ús de funcions de fila única en instruccions SQL simples

7. Mostreu el cognom de cada empleat, així com la data de contractació i la data de revisió del primer salari, que va ser el primer dilluns després de sis mesos de servei. Etiqueteu la columna **REVIEW.** Formateu les dates per a que aparegui en un format com el de la imatge. (2 punts)

```sql
SELECT last_name,
       hire_date,
       TO_CHAR((hire_date + INTERVAL '6 months' + ((8 - EXTRACT(DOW FROM (hire_date + INTERVAL '6 months'))) % 7) * INTERVAL '1 day'), 'Day') || ' ' ||
       CASE EXTRACT(DAY FROM (hire_date + INTERVAL '6 months' + ((8 - EXTRACT(DOW FROM (hire_date + INTERVAL '6 months'))) % 7) * INTERVAL '1 day'))
           WHEN 1 THEN 'One'
           WHEN 2 THEN 'Two'
           WHEN 3 THEN 'Three'
           WHEN 4 THEN 'Four'
           WHEN 5 THEN 'Five'
           WHEN 6 THEN 'Six'
           WHEN 7 THEN 'Seven'
           WHEN 8 THEN 'Eight'
           WHEN 9 THEN 'Nine'
           WHEN 10 THEN 'Ten'
           WHEN 11 THEN 'Eleven'
           WHEN 12 THEN 'Twelve'
           WHEN 13 THEN 'Thirteen'
           WHEN 14 THEN 'Fourteen'
           WHEN 15 THEN 'Fifteen'
           WHEN 16 THEN 'Sixteen'
           WHEN 17 THEN 'Seventeen'
           WHEN 18 THEN 'Eighteen'
           WHEN 19 THEN 'Nineteen'
           WHEN 20 THEN 'Twenty'
           WHEN 21 THEN 'Twenty-One'
           WHEN 22 THEN 'Twenty-Two'
           WHEN 23 THEN 'Twenty-Three'
           WHEN 24 THEN 'Twenty-Four'
           WHEN 25 THEN 'Twenty-Five'
           WHEN 26 THEN 'Twenty-Six'
           WHEN 27 THEN 'Twenty-Seven'
           WHEN 28 THEN 'Twenty-Eight'
           WHEN 29 THEN 'Twenty-Nine'
           WHEN 30 THEN 'Thirty'
           WHEN 31 THEN 'Thirty-One'
       END || ' of ' ||
       TO_CHAR((hire_date + INTERVAL '6 months' + ((8 - EXTRACT(DOW FROM (hire_date + INTERVAL '6 months'))) % 7) * INTERVAL '1 day'), 'Month, YYYY') AS REVIEW
FROM employees;
```

40 rows returned

	last_name character varying	hire_date date	review text
1	King	1987-06-17	Monday Twenty-One of December , 1987
2	Kochhar	1989-09-21	Monday Twenty-Six of March , 1990
3	De Haan	1993-01-13	Monday Nineteen of July , 1993
4	Hunold	1990-01-03	Monday Nine of July , 1990
5	Ernst	1991-05-21	Monday Twenty-Five of November , 1991
6	Austin	1997-06-25	Monday Twenty-Nine of December , 1997
7	Pataballa	1998-02-05	Monday Ten of August , 1998
8	Lorentz	1999-02-07	Monday Nine of August , 1999
9	Greenberg	1994-08-17	Monday Twenty of February , 1995
10	Faviet	1994-08-16	Monday Twenty of February , 1995
11	Chen	1997-09-28	Monday Thirty of March , 1998
12	Sciarra	1997-09-30	Monday Thirty of March , 1998
13	Urman	1998-03-07	Monday Seven of September, 1998
14	Popp	1999-12-07	Monday Twelve of June , 2000
15	Raphaely	1994-12-07	Monday Twelve of June , 1995
16	Khoo	1995-05-18	Monday Twenty of November , 1995
17	Baida	1997-12-24	Monday Twenty-Nine of June , 1998
18	Tobias	1997-07-24	Monday Twenty-Six of January , 1998
19	Himuro	1998-11-15	Monday Seventeen of May , 1999
20	Colmenares	1999-08-10	Monday Fourteen of February , 2000
21	Weiss	1996-07-18	Monday Twenty of January , 1997
22	Fripp	1997-04-10	Monday Thirteen of October , 1997
21	Weiss	1996-07-18	Monday Twenty of January , 1997
22	Fripp	1997-04-10	Monday Thirteen of October , 1997
23	Kaufling	1995-05-01	Monday Six of November , 1995
24	Vollman	1997-10-10	Monday Thirteen of April , 1998
25	Mikkilineni	1998-09-28	Monday Twenty-Nine of March , 1999
26	Russell	1996-10-01	Monday Seven of April , 1997
27	Partners	1997-01-05	Monday Seven of July , 1997
28	Taylor	1998-03-24	Monday Twenty-Eight of September, 1998
29	Livingston	1998-04-23	Monday Twenty-Six of October , 1998
30	Grant	1999-05-24	Monday Twenty-Nine of November , 1999
31	Johnson	2000-01-04	Monday Ten of July , 2000
32	Bell	1996-02-04	Monday Five of August , 1996
33	Everett	1997-03-03	Monday Eight of September, 1997
34	Whalen	1987-09-17	Monday Twenty-One of March , 1988
35	Hartstein	1996-02-17	Monday Nineteen of August , 1996
36	Fay	1997-08-17	Monday Twenty-Three of February , 1998
37	Mavris	1994-06-07	Monday Twelve of December , 1994
38	Baer	1994-06-07	Monday Twelve of December , 1994
39	Higgins	1994-06-07	Monday Twelve of December , 1994
40	Gietz	1994-06-07	Monday Twelve of December , 1994

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8. Crea una consulta que mostri el cognom i les comissions dels empleats. Si un empleat no cobra comissió, poseu "No Commission". Etiqueteu la columna **COMM**.
(1 punt)

```
SELECT last_name, COALESCE(TO_CHAR(commision, 'FM999999990.00'), 'No Commission')
AS COMM
FROM employees;
```

40 rows returned

	last_name character varying	comm text
1	King	No Commission
2	Kochhar	1.00
3	De Haan	2.00
4	Hunold	No Commission
5	Ernst	No Commission
6	Austin	No Commission
7	Pataballa	No Commission
8	Lorentz	1.00
9	Greenberg	No Commission
10	Faviet	No Commission
11	Chen	No Commission
12	Sciarra	2.50
13	Urman	No Commission
14	Popp	0.10
15	Raphaely	0.20
16	Khoo	No Commission
17	Baida	No Commission
18	Tobias	No Commission
19	Himuro	No Commission
20	Colmenares	No Commission
21	Weiss	0.10
22	Fripp	No Commission
21	Weiss	0.10
22	Fripp	No Commission
23	Kaufling	1.20
24	Vollman	1.00
25	Mikkilineni	No Commission
26	Russell	No Commission
27	Partners	No Commission
28	Taylor	No Commission
29	Livingston	No Commission
30	Grant	No Commission
31	Johnson	No Commission
32	Bell	No Commission
33	Everett	No Commission
34	Whalen	1.00
35	Hartstein	1.00
36	Fay	No Commission
37	Mavris	No Commission
38	Baer	No Commission
39	Higgins	No Commission
40	Gietz	No Commission

Ús de funcions de fila única en instruccions SQL simples

Part 2. BDD PAGILA.

9. Crea una consulta que mostri el títol de les pel·lícules, l'any de publicació i que indiqui la durada de lloguer (rental_duration) amb asteriscos. Cada asterisc significa un dia. Ordeneu les dades per any de publicació en ordre ascendent. Etiqueteu la columna **FILMS_AND_THEIR_DURATION**. (1 punt)

```sql
SELECT title, release_year, REPEAT('*', rental_duration) AS FILMS_AND_THEIR_DURATION
FROM film
ORDER BY release_year ASC;
```

1000 rows returned

	title character varying	release_year integer	films_and_their_duration text
1	ACADEMY DINOSAUR	2006	******
2	ACE GOLDFINGER	2006	***
3	ADAPTATION HOLES	2006	*******
4	AFFAIR PREJUDICE	2006	*****
5	AFRICAN EGG	2006	******
6	AGENT TRUMAN	2006	***
7	AIRPLANE SIERRA	2006	******
8	AIRPORT POLLOCK	2006	******
9	ALABAMA DEVIL	2006	***
10	ALADDIN CALENDAR	2006	******
11	ALAMO VIDEOTAPE	2006	******
12	ALASKA PHANTOM	2006	******
13	DATE SPEED	2006	****
14	ALI FOREVER	2006	****
15	ALICE FANTASIA	2006	******
16	ALIEN CENTER	2006	*****

Etc.

10. Utilitzant la funció CASE, escriviu una consulta que mostri el grau de totes les categories basant-se en el valor de la columna **NAME** segons les següents dades: (1 punt)

CATEGORY NAME	GRADE
Action	A
Drama	B
Comedy	C
Family	D

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Animation	E
Cap dels anteriors	U

Mostreu el codi de categoria, el nom, grau i ordeneu per grau.

```sql
SELECT name,
       CASE
           WHEN name = 'Action' THEN 'A'
           WHEN name = 'Drama' THEN 'B'
           WHEN name = 'Comedy' THEN 'C'
           WHEN name = 'Family' THEN 'D'
           WHEN name = 'Animation' THEN 'E'
           ELSE 'U'
       END AS grade
FROM category;
```

16 rows returned

	name character varying	grade text
1	Action	A
2	Animation	E
3	Children	U
4	Classics	U
5	Comedy	C
6	Documentary	U
7	Drama	B
8	Family	D
9	Foreign	U
10	Games	U
11	Horror	U
12	Music	U
13	New	U
14	Sci-Fi	U
15	Sports	U
16	Travel	U

11. Volem formatar els EMAILS dels clients canviant els punts per guions. Això ha de funcionar independentment d'on estiguin els punts. (2 punts)

```sql
SELECT customer_id, REPLACE(email, '.', '-')
FROM customer;
```

599 rows returned

	customer_id integer	replace text
1	1	MARY-SMITH@sakilacustomer-org
2	2	PATRICIA-JOHNSON@sakilacustomer-org
3	3	LINDA-WILLIAMS@sakilacustomer-org
4	4	BARBARA-JONES@sakilacustomer-org
5	5	ELIZABETH-BROWN@sakilacustomer-org
6	6	JENNIFER-DAVIS@sakilacustomer-org
7	7	MARIA-MILLER@sakilacustomer-org
8	8	SUSAN-WILSON@sakilacustomer-org
9	9	MARGARET-MOORE@sakilacustomer-org
10	10	DOROTHY-TAYLOR@sakilacustomer-org
11	11	LISA-ANDERSON@sakilacustomer-org
12	12	NANCY-THOMAS@sakilacustomer-org
13	13	KAREN-JACKSON@sakilacustomer-org
14	14	BETTY-WHITE@sakilacustomer-org
15	15	HELEN-HARRIS@sakilacustomer-org
16	16	SANDRA-MARTIN@sakilacustomer-org
17	17	DONNA-THOMPSON@sakilacustomer-org
18	18	CAROL-GARCIA@sakilacustomer-org
19	19	RUTH-MARTINEZ@sakilacustomer-org
20	20	SHARON-ROBINSON@sakilacustomer-org

Etc.