Abgabetermin: 6.5.2021, 12 Uhr

☐ **DEM2G1 Dr. Pitzer**   **Name** __Angelos Angelis_____   **Aufwand in h** __3____

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☐ **DEM2G3 Dr. Niklas**   **Punkte** _____   **Kurzzeichen Tutor** _____

Hinweise und Richtlinien:

- ▪ Übungsausarbeitungen müssen den im Syllabus angegebenen Formatierungsrichtlinien entsprechen – Nichtbeachtung dieser Formatierungsrichtlinien führt zu Punkteabzug.

- ▪ Zusätzlich zu den allgemeinen Formatierungsrichtlinien sind für diese Übungsausarbeitung folgende zusätzlichen Richtlinien zu beachten:

  - ▪ Treffen Sie, falls notwendig, sinnvolle Annahmen und dokumentieren Sie diese nachvollziehbar in ihrer Lösung!

  - ▪ Belegen Sie die Ausführung jedes Statements und führen Sie dazu die Ausgabe der Datenbank direkt beim jeweiligen Statement in Ihrer Übungsdokumentation an.

Ziel dieser Übung ist es, einfache Anfragen mit der Sprache SQL für das Datenbanksystem Oracle 19c zu erstellen.
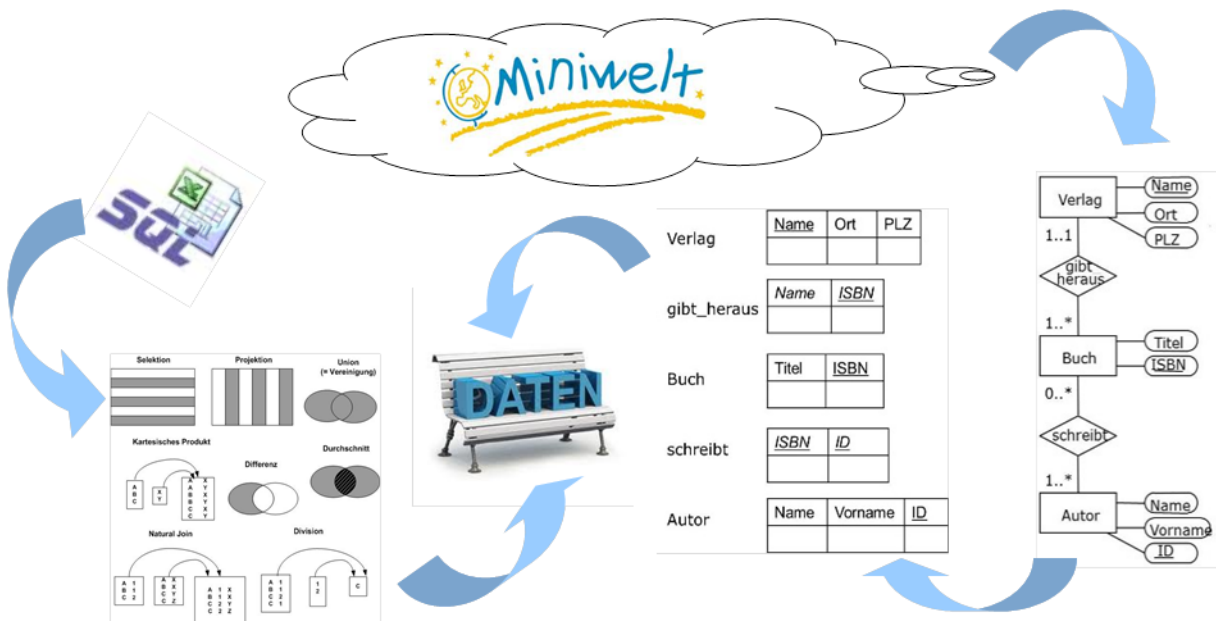
1)

SELECT e.manager_id AS "Emp #", e.first_name AS "Employee",e.last_name AS "Employee",e.job_id AS "Job",e.hire_date AS "Hire Date"

FROM employees e;

	Emp #	Employee	Employee_1	Job	Hire Date
1	(null)	Steven	King	AD_PRES	17.06.87
2	100	Neena	Kochhar	AD_VP	21.09.89
3	100	Lex	De Haan	AD_VP	13.01.93
4	102	Alexander	Hunold	IT_PROG	03.01.90
5	103	Bruce	Ernst	IT_PROG	21.05.91
6	103	Diana	Lorentz	IT_PROG	07.02.99
7	100	Kevin	Mourgos	ST_MAN	16.11.99
8	124	Trenna	Rajs	ST_CLERK	17.10.95
9	124	Curtis	Davies	ST_CLERK	29.01.97
10	124	Randall	Matos	ST_CLERK	15.03.98
11	124	Peter	Vargas	ST_CLERK	09.07.98
12	100	Eleni	Zlotkey	SA_MAN	29.01.00
13	149	Ellen	Abel	SA_REP	11.05.96
14	149	Jonathon	Taylor	SA_REP	24.03.98
15	149	Kimberely	Grant	SA_REP	24.05.99
16	101	Jennifer	Whalen	AD_ASST	17.09.87
17	100	Michael	Hartstein	MK_MAN	17.02.96
18	201	Pat	Fay	MK_REP	17.08.97
19	101	Shelley	Higgins	AC_MGR	07.06.94
20	205	William	Gietz	AC_ACCOUNT	07.06.94

SELECT DISTINCT manager_id

FROM employees;

	MANAGER_ID
1	124
2	(null)
3	103
4	101
5	149
6	201
7	100
8	102
9	205

SELECT *

FROM departments

WHERE manager_id = 201;

	DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
1	20	Marketing	201	1800

SELECT last_name,salary

FROM employees

WHERE salary < 6000;

	LAST_NAME	SALARY
1	Lorentz	4200
2	Mourgos	5800
3	Rajs	3500
4	Davies	3100
5	Matos	2600
6	Vargas	2500
7	Whalen	4400

SELECT last_name,salary,department_id

FROM employees

WHERE employee_id=124;

	LAST_NAME	SALARY	DEPARTMENT_ID
1	Mourgos	5800	50

SELECT last_name,job_id,hire_date

FROM employees

ORDER BY hire_date ASC;

	LAST_NAME	JOB_ID	HIRE_DATE
1	King	AD_PRES	17.06.87
2	Whalen	AD_ASST	17.09.87
3	Kochhar	AD_VP	21.09.89
4	Hunold	IT_PROG	03.01.90
5	Ernst	IT_PROG	21.05.91
6	De Haan	AD_VP	13.01.93
7	Higgins	AC_MGR	07.06.94
8	Gietz	AC_ACCOUNT	07.06.94
9	Rajs	ST_CLERK	17.10.95
10	Hartstein	MK_MAN	17.02.96
11	Abel	SA_REP	11.05.96
12	Davies	ST_CLERK	29.01.97
13	Fay	MK_REP	17.08.97
14	Matos	ST_CLERK	15.03.98
15	Taylor	SA_REP	24.03.98
16	Vargas	ST_CLERK	09.07.98
17	Lorentz	IT_PROG	07.02.99
18	Grant	SA_REP	24.05.99
19	Mourgos	ST_MAN	16.11.99
20	Zlotkey	SA_MAN	29.01.00

SELECT last_name,department_id

FROM employees

WHERE department_id = 20

ORDER BY last_name ASC;

	LAST_NAME	DEPARTME...
1	Fay	20
2	Hartstein	20

SELECT last_name,salary,commission_pct

FROM employees

WHERE commission_pct = 0.2;

	LAST_NAME	SALARY	COMMISSION_PCT
1	Zlotkey	10500	0,2
2	Taylor	8600	0,2

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2)

SELECT l.location_id,l.street_address, l.city

FROM locations l NATURAL JOIN countries c;

	LOCATION_ID	STREET_ADDRESS	CITY
1	1400	2014 Jabberwocky Rd	Southlake
2	1500	2011 Interiors Blvd	South San Francisco
3	1700	2004 Charade Rd	Seattle
4	1800	147 Spadina Ave	Toronto
5	2500	Magdalen Centre, The Oxford Science Park	Oxford

SELECT e.last_name,e.department_id,d.department_name

FROM employees e

LEFT JOIN departments d ON (e.department_id = d.department_id)

ORDER BY e.last_name DESC;

	LAST_NAME	DEPARTMENT_ID	DEPARTMENT_NAME
1	Zlotkey	80	Sales
2	Whalen	10	Administration
3	Vargas	50	Shipping
4	Taylor	80	Sales
5	Rajs	50	Shipping
6	Mourgos	50	Shipping
7	Matos	50	Shipping
8	Lorentz	60	IT
9	Kochhar	90	Executive
10	King	90	Executive
11	Hunold	60	IT
12	Higgins	110	Accounting
13	Hartstein	20	Marketing
14	Grant	(null)	(null)
15	Gietz	110	Accounting
16	Fay	20	Marketing
17	Ernst	60	IT
18	De Haan	90	Executive
19	Davies	50	Shipping
20	Abel	80	Sales

SELECT e.last_name, e.job_id, e.department_id, d.department_name

FROM employees e

LEFT JOIN departments d ON (e.department_id = d.department_id)

LEFT JOIN locations l ON (d.location_id = l.location_id)

WHERE l.city = 'Oxford';

	LAST_NAME	JOB_ID	DEPARTMENT_ID	DEPARTMENT_NAME
1	Zlotkey	SA_MAN	80	Sales
2	Abel	SA_REP	80	Sales
3	Taylor	SA_REP	80	Sales

SELECT e.last_name AS "Employee", e.employee_id AS "Emp#",m.last_name AS "Manager", m.manager_id AS "Mgr#"

FROM employees e

INNER JOIN employees m ON (e.manager_id = m.manager_id);

	Employee	Emp#	Manager	Mgr#
1	Kochhar	101	Kochhar	100
2	De Haan	102	Kochhar	100
3	Mourgos	124	Kochhar	100
4	Zlotkey	149	Kochhar	100
5	Hartstein	201	Kochhar	100
6	Kochhar	101	De Haan	100
7	De Haan	102	De Haan	100
8	Mourgos	124	De Haan	100
9	Zlotkey	149	De Haan	100
10	Hartstein	201	De Haan	100
11	Hunold	103	Hunold	102
12	Ernst	104	Ernst	103
13	Lorentz	107	Ernst	103
14	Ernst	104	Lorentz	103
15	Lorentz	107	Lorentz	103
16	Kochhar	101	Mourgos	100
17	De Haan	102	Mourgos	100
18	Mourgos	124	Mourgos	100
19	Zlotkey	149	Mourgos	100
20	Hartstein	201	Mourgos	100
21	Rajs	141	Rajs	124
22	Davies	142	Rajs	124
23	Matos	143	Rajs	124
24	Vargas	144	Rajs	124
25	Rajs	141	Davies	124
26	Davies	142	Davies	124
27	Matos	143	Davies	124
28	Vargas	144	Davies	124
29	Rajs	141	Matos	124
30	Davies	142	Matos	124
31	Matos	143	Matos	124
32	Vargas	144	Matos	124
33	Rajs	141	Vargas	124
34	Davies	142	Vargas	124
35	Matos	143	Vargas	124
36	Vargas	144	Vargas	124
37	Kochhar	101	Zlotkey	100
38	De Haan	102	Zlotkey	100
39	Mourgos	124	Zlotkey	100
40	Zlotkey	149	Zlotkey	100
41	Hartstein	201	Zlotkey	100
42	Abel	174	Abel	149
43	Taylor	176	Abel	149
44	Grant	178	Abel	149
45	Abel	174	Taylor	149
46	Taylor	176	Taylor	149
47	Grant	178	Taylor	149
48	Abel	174	Grant	149
49	Taylor	176	Grant	149
50	Grant	178	Grant	149
51	Whalen	200	Whalen	101
52	Higgins	205	Whalen	101
53	Kochhar	101	Harts...	100
54	De Haan	102	Harts...	100
55	Mourgos	124	Harts...	100
56	Zlotkey	149	Harts...	100
57	Hartstein	201	Harts...	100
58	Fay	202	Fay	201
59	Whalen	200	Higgins	101
60	Higgins	205	Higgins	101
61	Gietz	206	Gietz	205

SELECT e.last_name,e.salary

FROM employees e

JOIN job_grades j ON e.salary > j.lowest_sal
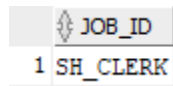
WHERE j.grade_level = 'E';

	LAST_NAME	SALARY
1	King	24000
2	Kochhar	17000
3	De Haan	17000

SELECT e.last_name,e.job_id,d.department_name

FROM employees e

LEFT JOIN departments d ON (e.department_id = d.department_id)

WHERE e.salary > 5000;

	LAST_NAME	JOB_ID	DEPARTMENT_NAME
1	Hartstein	MK_MAN	Marketing
2	Fay	MK_REP	Marketing
3	Mourgos	ST_MAN	Shipping
4	Hunold	IT_PROG	IT
5	Ernst	IT_PROG	IT
6	Zlotkey	SA_MAN	Sales
7	Abel	SA_REP	Sales
8	Taylor	SA_REP	Sales
9	King	AD_PRES	Executive
10	Kochhar	AD_VP	Executive
11	De Haan	AD_VP	Executive
12	Higgins	AC_MGR	Accounting
13	Gietz	AC_ACCOUNT	Accounting
14	Grant	SA_REP	(null)

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3)

SELECT job_id

FROM jobs

MINUS (SELECT job_id

    FROM employees);

JOB_ID
1 SH_CLERK

SELECT country_id, country_name

FROM countries

minus (SELECT country_id, country_name

    FROM locations

    INNER JOIN countries USING (country_id));

COUNT...	COUNTRY_NAME
1 DE	Germany

SELECT employee_id

FROM employees

WHERE manager_id > 0

UNION

SELECT employee_id

FROM job_history;

	EMPLOYEE_ID
1	101
2	102
3	103
4	104
5	107
6	124
7	141
8	142
9	143
10	144
11	149
12	174
13	176
14	178
15	200
16	201
17	202
18	205
19	206

SELECT employee_id , job_id , hire_date

FROM employees

INTERSECT

SELECT employee_id , job_id , start_date AS hire_date

FROM job_history;

	EMPLOY...	JOB_ID	HIRE_DATE
1	176	SA_REP	24.03.98
2	200	AD_ASST	17.09.87