DATA BASES I

ΠΑΝΕΠΙΣΤΗΜΙΟ ΔΥΤΙΚΗΣ ΑΤΤΙΚΗΣ
UNIVERSITY OF WEST ATTICA

DEPARTMENT OF INFORMATION AND COMPUTER ENGINEERING

TASK 2
CREATE AND MANAGE A PERSONNEL BASE USING SIMPLE AND COMPOUND STATEMENTS. SUBQUERIES IN SQL LANGUAGE

STUDENT DETAILS

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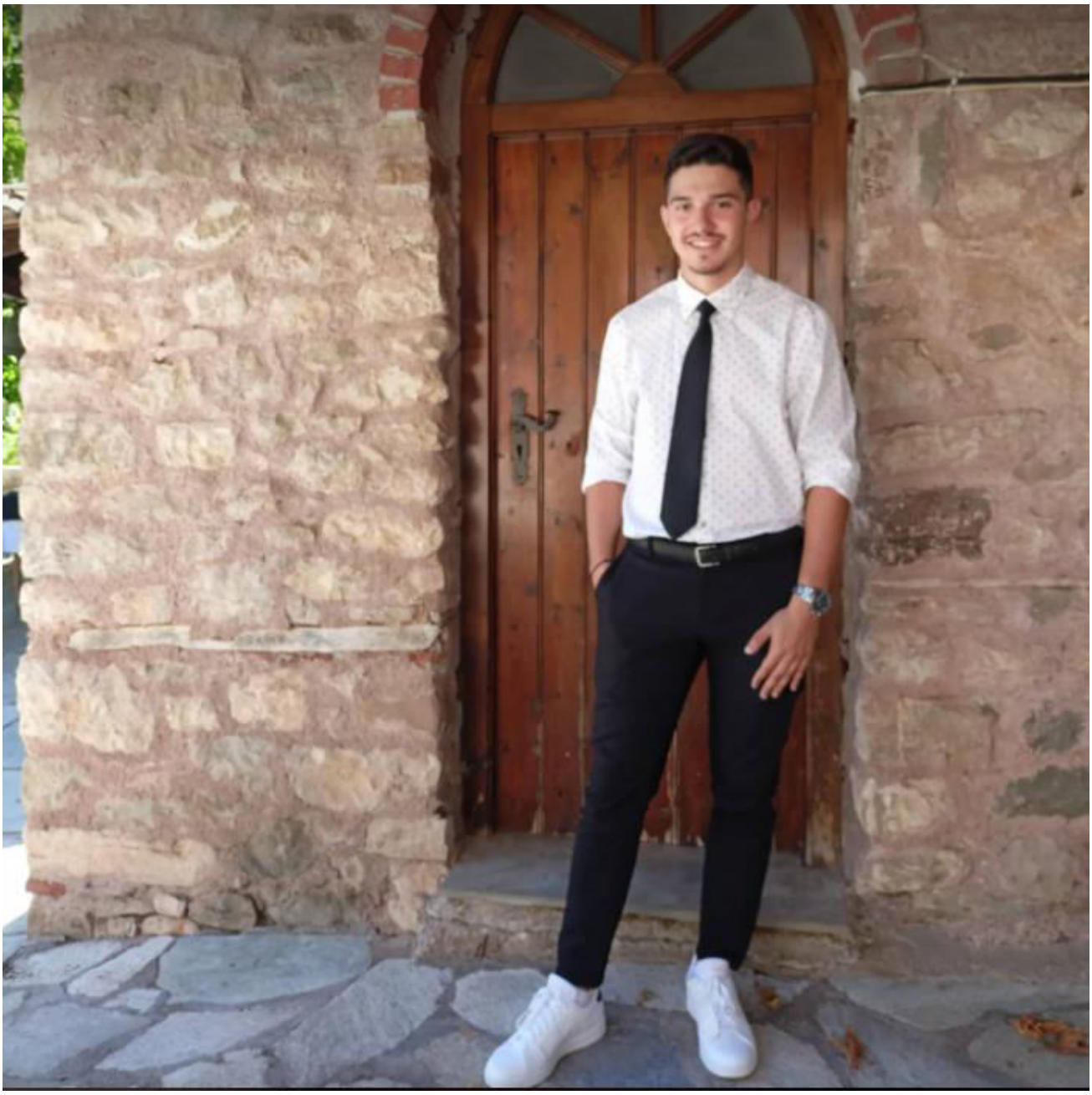
STUDENT **SEMESTER:** 8th
STUDENT STATUS : UNDERGRADUATE
STUDY PROGRAM : UNIWA
LABORATORY DEPARTMENT : [2.1] WEDNESDAY 15:00 – 16:00
LABORATORY MANAGER : TSOLAKIDIS ANASTASIOS
DELIVERY DATE : 7/6/2023

STUDENT PHOTO:



CREATE BASE new _ personnel

COMMANDS

```
DROP DATABASE IF EXISTS new_personnel;

CREATE DATABASE IF NOT EXISTS new_personnel;

USE new_personnel;


CREATE TABLE IF NOT EXISTS DEPT(DEPTNO INT(2) NOT NULL, DNAME
VARCHAR(14), LOC VARCHAR(14), PRIMARY KEY(DEPTNO));

INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (10, 'ACCOUNTING',
'ATHENS');

INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (20, 'SALES', 'LONDON');

INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (30, 'RESEARCH', 'ATHENS');

INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (40, 'PAYROLL', 'LONDON');

SELECT * FROM DEPT;


CREATE TABLE IF NOT EXISTS EMP (EMPNO INT(2) NOT NULL, ENAME VARCHAR(14),
JOB VARCHAR(14), HIREDATE DATE, MGR INT(2), SAL INT(4), COMM INT(3),
DEPTNO INT (2) NOT NULL, PRIMARY KEY(EMPNO), FOREIGN KEY(DEPTNO)
REFERENCES DEPT(DEPTNO));

INSERT INTO EMP (EMPNO, ENAME, JOB, HIREDATE, MGR, SAL, COMM, DEPTNO)
VALUES (10, 'CODD', 'ANALYST', '89/1/1', 15, 3000, NULL, 10);

INSERT INTO EMP (EMPNO, ENAME, JOB, HIREDATE, MGR, SAL, COMM, DEPTNO)
VALUES (15, 'ELMASRI', 'ANALYST', '95/5/2', 15, 1200, 150, 10);

INSERT INTO EMP (EMPNO, ENAME, JOB, HIREDATE, MGR, SAL, COMM, DEPTNO)
VALUES (20, 'NAVATHE', 'SALESMAN', '77/7/7', 20, 2000, NULL, 20);

INSERT INTO EMP (EMPNO, ENAME, JOB, HIREDATE, MGR, SAL, COMM, DEPTNO)
VALUES (30, 'DATE', 'PROGRAMMER', '04/5/4', 15, 1800, 200, 10);

SELECT * FROM EMP;


CREATE TABLE IF NOT EXISTS PROJ (PROJ_CODE INT(3) NOT NULL, DESCRIPTION
VARCHAR(14), PRIMARY KEY(PROJ_CODE));

INSERT INTO PROJ (PROJ_CODE, DESCRIPTION) VALUES (100, 'PAYROLL');

INSERT INTO PROJ (PROJ_CODE, DESCRIPTION) VALUES (200, 'PERSONNEL');

INSERT INTO PROJ (PROJ_CODE, DESCRIPTION) VALUES (300, 'SALES');
```

```
SELECT * FROM PROJ;


CREATE TABLE IF NOT EXISTS ASSIGN (EMPNO INT(2) NOT NULL, PROJ_CODE
INT(3) NOT NULL, A_TIME INT(3), PRIMARY KEY(EMPNO, PROJ_CODE), FOREIGN
KEY(EMPNO) REFERENCES EMP(EMPNO), FOREIGN KEY (PROJ_CODE) REFERENCES
PROJ(PROJ_CODE));
INSERT INTO ASSIGN (EMPNO, PROJ_CODE, A_TIME) VALUES (10, 100, 40);
INSERT INTO ASSIGN (EMPNO, PROJ_CODE, A_TIME) VALUES (10, 200, 60);
INSERT INTO ASSIGN (EMPNO, PROJ_CODE, A_TIME) VALUES (15, 100, 100);
INSERT INTO ASSIGN (EMPNO, PROJ_CODE, A_TIME) VALUES (20, 200, 100);
INSERT INTO ASSIGN (EMPNO, PROJ_CODE, A_TIME) VALUES (30, 100, 100);
SELECT * FROM ASSIGN;
```

RESULTS

```
SELECT * FROM DEPT;
+--------+------------+--------+
| DEPTNO | DNAME | LOC |
+--------+------------+--------+
| 10 | ACCOUNTING | ATHENS |
| 20 | SALES | LONDON |
| 30 | RESEARCH | ATHENS |
| 40 | PAYROLL | LONDON |
+--------+------------+--------+


SELECT * FROM EMP;
+-------+---------+-----------+------------+----- -+------+------+------
+
| EMPNO | ENAME | JOB | HIREDATE | MGR | SAL | COMM | DEPTNO |
+-------+---------+-----------+------------+----- -+------+------+------
+
| 10 | CODD | ANALYST | 1989-01-01 | 15 | 3000 | NULL | 10 |
| 15 | ELMASRI | ANALYST | 1995-05-02 | 15 | 1200 | 150 | 10 |
| 20 | NAVATHE | SALESMAN | 1977-07-07 | 20 | 2000 | NULL | 20 |
```

```
| 30 | DATE | PROGRAMMER | 2004-05-04 | 15 | 1800 | 200 | 10 |
+-------+---------+-----------+------------+----- -+------+------+------
+
```

```
SELECT * FROM PROJ;
+-----------+-------------+
| PROJ_CODE | DESCRIPTION |
+-----------+-------------+
| 100 | PAYROLL |
| 200 | PERSONNEL |
| 300 | SALES |
+-----------+-------------+
```

```
SELECT * FROM ASSIGN;
+-------+-----------+---------+
| EMPNO | PROJ_CODE | A_TIME |
+-------+-----------+---------+
| 10 | 100 | 40 |
| 10 | 200 | 60 |
| 15 | 100 | 100 |
| 20 | 200 | 100 |
| 30 | 100 | 100 |
+-------+-----------+---------+
```

QUESTIONS

1. Find the statement that will result in the table below (Table 1).

ENAME	SALARY	SUPPLY	QUOTA
CODD	€ 3,000		0.00 %
ELMASRI	€ 1,200	150.0	12.50 %
NAVATHE	€ 2,000		0.00 %
DATE	€ 1,800	200.0	11.11 %

Table 1.

STATEMENT

```
SELECT ENAME,
CONCAT(FORMAT(SAL, 0),' ','€') "SALARY",
IFNULL(CONCAT(COMM,'.','00'), " ") "SUPPLY",
IFNULL(CONCAT(FORMAT((COMM/SAL)*100, '2'),' ','%'), "0.00 %")
"PERCENTAGE" FROM EMP;
```

RESULTS

```
+---------+-------------+--------------------+--- -------------+
| ENAME | SALARY | SUPPLY | PERCENT |
+---------+-------------+--------------------+--- -------------+
| CODD | €3,000 | | 0.00 % |
| ELMASRI | €1,200 | 150.00 | 12.50 % |
| NAVATHE | €2,000 | | 0.00 % |
| DATE | €1,800 | 200.00 | 11.11 % |
+---------+-------------+--------------------+--- -------------+
```

2. Locate the statement that will show the monthly earnings, years of work and names of employees who have worked for the company for more than 20 years (Table 2)

SURNAME	MONTHLY EARNINGS	PROVINCE
CODD	€ 3,000	31 years
ELMASRI	€ 1,350	25 years
NAVATHE	€ 2,000	43 years

Table 2.

STATEMENT

```
SELECT ENAME " LAST NAME ",
CONCAT(FORMAT(SAL+IFNULL(COMM, 0), 0),' ','€') " MONTHLY ACCEPTANCE
",
CONCAT(FORMAT(DATEDIFF('2020-1-1', HIREDATE)/365, 0),' ',' years ')
" SERVICE "
FROM EMP WHERE (DATEDIFF('2020-1-1', HIREDATE)/365 > 20);
```

RESULTS

```
+---------------+------------------------------ ---+------------
+
| LAST NAME | MONTHLY INCOME | PROVINCE |
+---------------+------------------------------ ---+------------
+
| CODD | €3,000 | 31 years |
| ELMASRI | €1,350 | 25 years |
| NAVATHE | €2,000 | 43 years |
+---------------+------------------------------ ---+------------
+
```

3. Locate the statement that will display the name, position, and hire date of employees who have an ANALYST or SALESMAN position and were hired in the first 5 days of the month (Table 3).

SURNAME	POSITION	RECRUITMENT
CODD	ANALYST	1989-01-01
ELMASRI	ANALYST	1995-05-02

Table 3 .

STATEMENT

```
SELECT ENAME "LAST NAME", JOB "POSITION", HIREDATE "HIRING"
FROM EMP
WHERE (JOB='SALESMAN' OR JOB='ANALYST') AND
(SUBSTRING(CONVERT(HIREDATE, NCHAR), 9) BETWEEN '01' AND '05');
```

RESULTS

```
+----------------+----------+----------------+
| LAST NAME | POSITION | RECRUITMENT |
+----------------+----------+----------------+
| CODD | ANALYST | 1989-01-01 |
| ELMASRI | ANALYST | 1995-05-02 |
+----------------+----------+----------------+
```

4. Locate the statement that will display the names of employees who work in the same position as an employee of the ACCOUNTING department

STATEMENT

```
SELECT ENAME "LAST NAME", JOB "POSITION", CONCAT('ACCOUNTING')
"DEPARTMENT"
FROM EMP
WHERE (DEPTNO, JOB) IN
(SELECT DEPTNO, JOB FROM EMP WHERE DEPTNO=10 AND ENAME='CODD');
```

RESULTS

```
+---------------+----------+------------+
| LAST NAME | POSITION | SECTION |
+---------------+----------+------------+
| CODD | ANALYST | ACCOUNTING |
| ELMASRI | ANALYST | ACCOUNTING |
+---------------+----------+------------+
```

5. Locate the statement that will display the names of employees and their total monthly earnings for those with the highest total earnings in their department.

STATEMENT

```
SELECT ENAME "LAST NAME", SAL+IFNULL(COMM,0) "MONTHLY INCOME",
DEPTNO "DEPARTMENT"
FROM EMP X WHERE (DEPTNO, SAL+IFNULL(COMM,0)) IN
(SELECT DEPTNO, MAX(SAL+IFNULL(COMM,0))
FROM EMP WHERE X.DEPTNO=DEPTNO);
```

RESULTS

```
+---------------+------------------------------- ---+------------
+
| LAST NAME | MONTHLY INCOME | SECTION |
+---------------+------------------------------- ---+------------
+
| CODD | 3000 | 10 |
| NAVATHE | 2000 | 20 |
+---------------+------------------------------- ---+------------
+
```

6. Locate the statement that will display the names and salaries of employees in the department named ACCOUNTING who have a salary less than the maximum salary of employees in the RESEARCH department.

STATEMENT

```
SELECT ENAME "LAST NAME", SAL "SALARY", CONCAT('ACCOUNTING')
"DEPARTMENT"

FROM EMP WHERE DEPTNO=10 AND SAL <

(SELECT MAX(SAL) FROM EMP WHERE DEPTNO=30);
```

RESULTS

```
Empty set
```

Thank you for your attention.