

LAB 7

-- A

```
SELECT EXTRACT(YEAR FROM SIGNUP.YEAR) AS YEAR, COUNT(*) AS  
NUM_OF_STUDENTS  
FROM SIGNUP  
GROUP BY EXTRACT(YEAR FROM SIGNUP.YEAR)
```

-- B

```
SELECT EXTRACT(YEAR FROM SIGNUP.YEAR) AS YEAR, DEPARTMENT.FACULTY,  
DEPARTMENT.ID, COUNT(*) AS NUM_OF_STUDENTS  
FROM SIGNUP  
INNER JOIN STUDENT ON SIGNUP.STUDENT_ID = STUDENT.ID  
INNER JOIN DEPARTMENT ON STUDENT.DEPARTMENT = DEPARTMENT.ID  
GROUP BY EXTRACT(YEAR FROM SIGNUP.YEAR), DEPARTMENT.FACULTY,  
DEPARTMENT.ID
```

-- C

```
SELECT STUDENT.NAME || ' ' || STUDENT.SURNAME AS STUDENT,  
STUDENT.ID, COURSE.NAME, AVG(GRADE.VALUE) AS AVG_GRADE  
FROM STUDENT  
INNER JOIN SIGNUP ON STUDENT.ID = SIGNUP.STUDENT_ID  
INNER JOIN COURSE ON SIGNUP.COURSE_ID = COURSE.ID  
INNER JOIN GRADE ON SIGNUP.ID = GRADE.SIGNUP_ID  
WHERE GRADE.ELP IN ('L', 'P')  
GROUP BY STUDENT.NAME || ' ' || STUDENT.SURNAME, STUDENT.ID,  
COURSE.NAME
```

-- D

```
SELECT COURSE.NAME, AVG(GRADE.VALUE) AS AVG_GRADE  
FROM GRADE  
INNER JOIN SIGNUP ON GRADE.SIGNUP_ID = SIGNUP.ID  
INNER JOIN STUDENT ON SIGNUP.STUDENT_ID = STUDENT.ID  
INNER JOIN COURSE ON SIGNUP.COURSE_ID = COURSE.ID  
WHERE GRADE.ELP = 'L' AND COURSE.NAME = 'Programming'  
GROUP BY COURSE.NAME
```

-- E

```
SELECT DEPARTMENT.ID, DEPARTMENT.FACULTY
FROM DEPARTMENT
INNER JOIN STUDENT ON DEPARTMENT.ID = STUDENT.DEPARTMENT
INNER JOIN SIGNUP ON STUDENT.ID = SIGNUP.STUDENT_ID
INNER JOIN GRADE ON SIGNUP.ID = GRADE.SIGNUP_ID
WHERE GRADE.ELP = 'E'
GROUP BY DEPARTMENT.ID, DEPARTMENT.FACULTY
HAVING COUNT(*) >= 10 AND MAX(GRADE.VALUE) = 10
```

-- F

```
SELECT UPPER(STUDENT.NAME) || ' ' || STUDENT.SURNAME, COURSE.NAME,
COURSE.ID,
    MAX(CASE WHEN GRADE.ELP = 'E' THEN GRADE.VALUE END) AS
EXAM_GRADE,
    AVG(CASE WHEN GRADE.ELP = 'L' THEN GRADE.VALUE WHEN GRADE.ELP =
'P' THEN GRADE.VALUE END) AS ACTIVITY_GRADE,
    (2 * AVG(CASE WHEN GRADE.ELP = 'E' THEN GRADE.VALUE END)
    + AVG(CASE WHEN GRADE.ELP = 'L' THEN GRADE.VALUE WHEN GRADE.ELP
= 'P' THEN GRADE.VALUE END)) / 3 AS FINAL_GRADE
FROM STUDENT
INNER JOIN SIGNUP ON STUDENT.ID = SIGNUP.STUDENT_ID
INNER JOIN GRADE ON SIGNUP.ID = GRADE.SIGNUP_ID
INNER JOIN COURSE ON SIGNUP.COURSE_ID = COURSE.ID
GROUP BY STUDENT.NAME, STUDENT.SURNAME, COURSE.NAME, COURSE.ID
HAVING (2 * MAX(CASE WHEN GRADE.ELP = 'E' THEN GRADE.VALUE END)
    + AVG(CASE WHEN GRADE.ELP = 'L' THEN GRADE.VALUE WHEN
GRADE.ELP = 'P' THEN GRADE.VALUE END)) / 3 >= 5
```