

BONUS LAB 2%

Due date: **November 30, 2017 midnight via Blackboard**

Objectives: To provide extra bonus 2% for labs (in case of missing labs) and to review the material for the final exam (and professional life)

Part 1

1. (0.5%) Comparison of data storage using the CHAR(10) and VARCHAR2(10) data types

Create a stored procedure MY_TEST to demonstrate the difference between CHAR and VARCHAR. The input parameter is p_string. Use the body of your procedure.

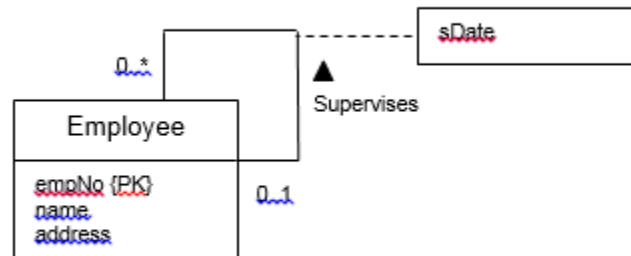
```
L_VARIABLE VARCHAR2 (10);
L_FIXED    CHAR (10);
BEGIN
    IF L_VARIABLE = L_FIXED THEN
        DBMS_OUTPUT.PUT_LINE ('EQUAL');
    ELSE
        DBMS_OUTPUT.PUT_LINE ('NOT EQUAL');
    END IF;
END;
```

Test cases

1. exec my_test(NULL);
2. exec my_test('data');
3. exec my_test('relational');
4. exec my_test('relational database');

Please provide in pdf: **Your procedure and test results with explanations.**

2. (0.5%) Map the following ERD into a relational model (**one relation**), map the relation into a physical model and implement the model in Oracle 12c.



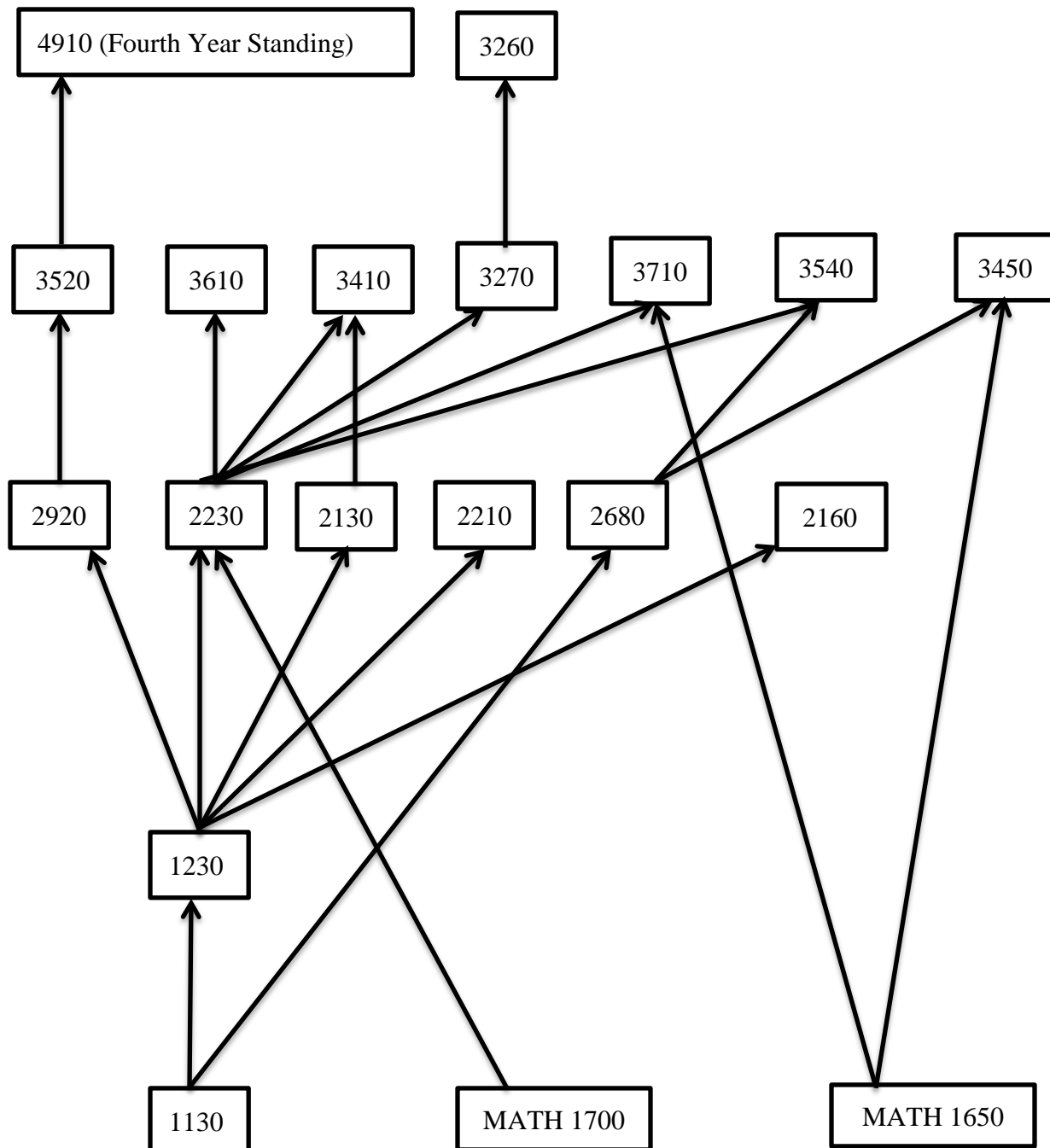
Write an SQL script to (Include your script in the pdf file with the results)

- Create the EMPLOYEE table.
Add the data to reflect the following situation: TOM (address SCIENCE) supervises KEVIN, MILA, and MRIDULA since 2017-01-01. KEVIN, MILA, and MRIDULA have address CS. KING (address TRU) supervises TOM since 2000-01-01. Nobody supervises the KING
- SQL statement to list the employees (all data) and their immediate supervisors (supervisor id and supervisor name).

Part 2 (1%)

During our last class, Eric Youd had a presentation on how our (grades and registration) data are stored in the real database. There is a plan to implement the automated checking for the prerequisites for course at TRU. Please help Erick with this task ☺. Create an ERD for the courses and their prerequisites. Map the CDM into PDM and create an SQL script to create the tables. Add the data. Create a stored procedure to **list the prerequisites** (immediate prerequisites) for a given course (input parameter: course number). To simplify the task we will use only numbers (there are unique in this case) ☺

Course Prerequisites in Computing Science (from Fall 2015)



LAB SUBMISSION

Create a pdf file and upload to the Blackboard.