Data Systems - Spring 2025
Assignment - 1
Deadline - 11:59 PM, 25ᵗʰ Jan 2025

INSTRUCTIONS :

1. *You need to write the SQL queries that will give us the desired output as per the conditions given in the below questions.*
2. *The tables (.csv files) that need to be used as part of this assignment are provided in the zip folder attached with this doc. Add these files into your data folder.*
3. *Your SQL queries need to be written in a file with the extension **.ra***
   *For example, if your queries for **task b** include the following commands :*
   > LOAD Students
   > RES <- SELECT Stud_Id <= 10 FROM Students
   > PRINT RES

   *You will create a file with the name **b.ra** and it will contain these 3 commands.*
4. *Only one member of a team needs to submit the assignment. You need to submit a zip folder containing all the .ra files. Your zip folder must be named* **<TeamID>_A1.zip** *. For example :* **12_A1.zip, 39_A1.zip**
5. *Keep in mind that all the queries and table names are **case-sensitive.***

Tasks :

➔ The columns to be extracted are written inside brackets for each task. If you rename any of the columns in the process, make sure that your final output's column name must match what is asked.
➔ Use tables *STUDENTS, MARKS, ADVISOR* for tasks **a - h** and use tables *DEPARTMENT, EMPLOYEE, PROJECT, WORKS_ON* for tasks **i - l**

a) List all the students with sex as male (0 represents male, 1 represents female)
   [**stud_id , stud_age**]
b) List all the students with sex as female and age > 16
   [**stud_id, stud_age**]
c) List all the students whose sex is opposite to that of their advisor
   [**stud_id, adv_id, stud_sex, adv_sex**]

d) List all the students whose maths marks is **>= 70**, physics marks is **> 60** and age is in between 16 and 18 **(both inclusive)**
[**stud_id, maths_marks, physics_marks, stud_age**]

e) List all female students whose advisor id is 1, and maths marks is **> 70**
[**stud_id, maths_marks**]

f) List all advisors who have their years of experience **<= 4** and salary **> 300000** (3 lakhs)
[**adv_id, yrs_of_exp**]

g) List all students whose advisor age is **> 40**
[**stud_id, adv_id**]

h) List all students whose advisor id is 2 and maths marks **> 90**
[**stud_id , adv_id, maths_marks**]

i) List all employees with salaries **>= 30000** (Thirty Thousand)
[**Ssn, Salary**]

j) List all pairs of employees and their supervisor both of whom have the same birth date
[**Ssn, Super_ssn, Bdate**]

k) List all projects which have both male and female employees working on them.
[**Pno**]

l) List all projects (along with the employee and their supervisor) on which both an employee and his/her supervisor is working
[**Ssn, Super_ssn, Pno**]

ALL THE BEST