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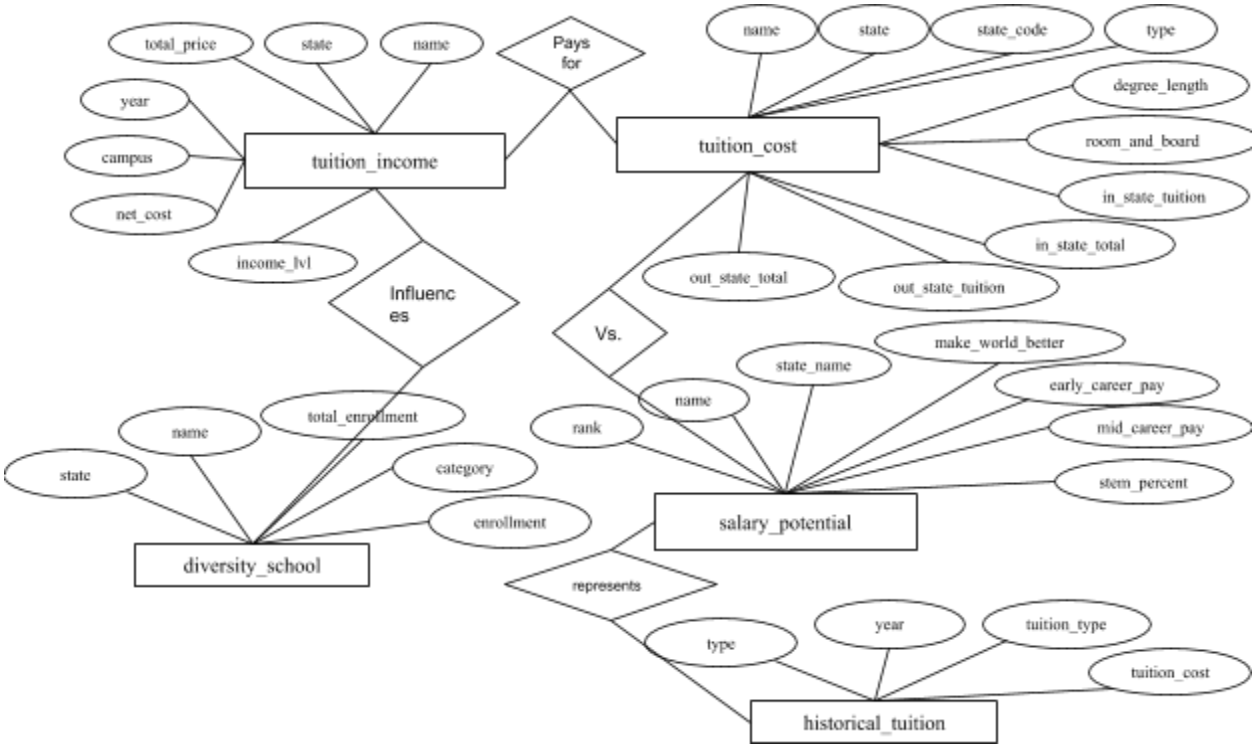
Project checkpoint 3

Each group must submit a *pdf* file that includes the following:

1. The ER diagram. Please state if this one is a revised one. If it is revised, please discuss **where you revised it, and why**. If it is not revised, **please state that it has not been revised.**



Two things have been changed since the last revision, these are the connections of tuition income and diversity of the school as well as one connection between Tuition cost and salary potential. We thought that these connections are important because they can help tell a more clear story in our tables.

2. The relational schema of your database. For each table, specify all keys that are applicable and designate one key as the primary key. For example, you List all non-trivial functional dependencies that are applicable. Try to ensure that all tables in your schema are in **third normal form (3NF)**. If a table is not in 3NF, please explain the reason why you make that design decision.
   a. School(school_name, school_type, degree_length, campus, state_code)

PK(school_id) other keys(state_code (FK))

State(State_Code, State_name)

PK(State_code)

Diversity_School(diversity_id, total_enrollment, category, enrollment_by_category, school_ID)

PK(diversity_id) other keys (school_id (FK))

Historical_tuition(historical_id, academic_year, tuition_type, tuition_cost, school_ID)

PK(historical_id) other keys (school_id (FK))

salary_potential(salary_id, rank, early_career_pay, mid_career_pay, make_world_better_percent, stem_percent, school_ID , state_code)

PK(salary_id) other keys (school_ID (FK), state_code (FK))

tuition_cost(room_and_board, in_state_tuition, in_state_total, out_state_tuition, out_state_total, school_ID, state_code)

PK (tuition_cost_id) other keys (school_id(FK), state_code (FK))

Tuition_income (tuition_income_id, campus, income_level, net_cost, school_ID, state_code)

PK(tuition_income_id) other keys (school_ID(FK), state_code (FK))

3. List all non-trivial functional dependencies that are applicable. Try to ensure that all tables in your schema are in **third normal form (3NF)**. If a table is not in 3NF, please explain the reason why you make that design decision.

a. School (school_id, school_name, school_type, degree_length, campus, state_code)

{school_id, school_name, school_type → degree_length, campus, state_code}

b. State (state_code, state_name)
   {state_code → state_name}

c. Diversity_school (diversity_id, school_name, total_enrollment, category, enrollment_by_category, school_id)
   {diversity_id, school_name, school_id → total_enrollment, category, enrollment_by_category}

d. Historical_tuition (historical_id, academic_year, tuition_type, tuition_cost, school_ID)
   {historical_id → tuition_type, tuition_cost
   tuition_type → tuition_cost, academic_year
   historical_id, school_ID → academic_year, tuition_type, tuition_cost}

e. Salay_potential (salary_id, rank, early_career_pay, mid_career_pay, make_world_better_percent, stem_percent, school_ID , state_code)
   {salary_id, school_ID, state_code → early_career_pay, mid_career_pay, make_world_better_percent, stem_percent}

f. Tuition_cost (tuition_cost_ID, room_and_board, in_state_tuition, in_state_total, out_state_tuition, out_state_total, school_ID, state_code)
   {tuition_cost_ID, school_ID, state_code → room_and_board, in_state_tuition, in_state_total, out_state_tuition, out_state_total}

g. Tuition_income (tuition_income_id, campus, net_cost, income_level, school_ID, state_code)
   {tuition_income_id, school_ID, state_code → camput, net_cost, income_level}

4. Describe the final choice for software platforms/languages that you will be using.

   For the final use of languages we will be using java and sql for the backend as well as react for the frontend.