**Pokémon database**

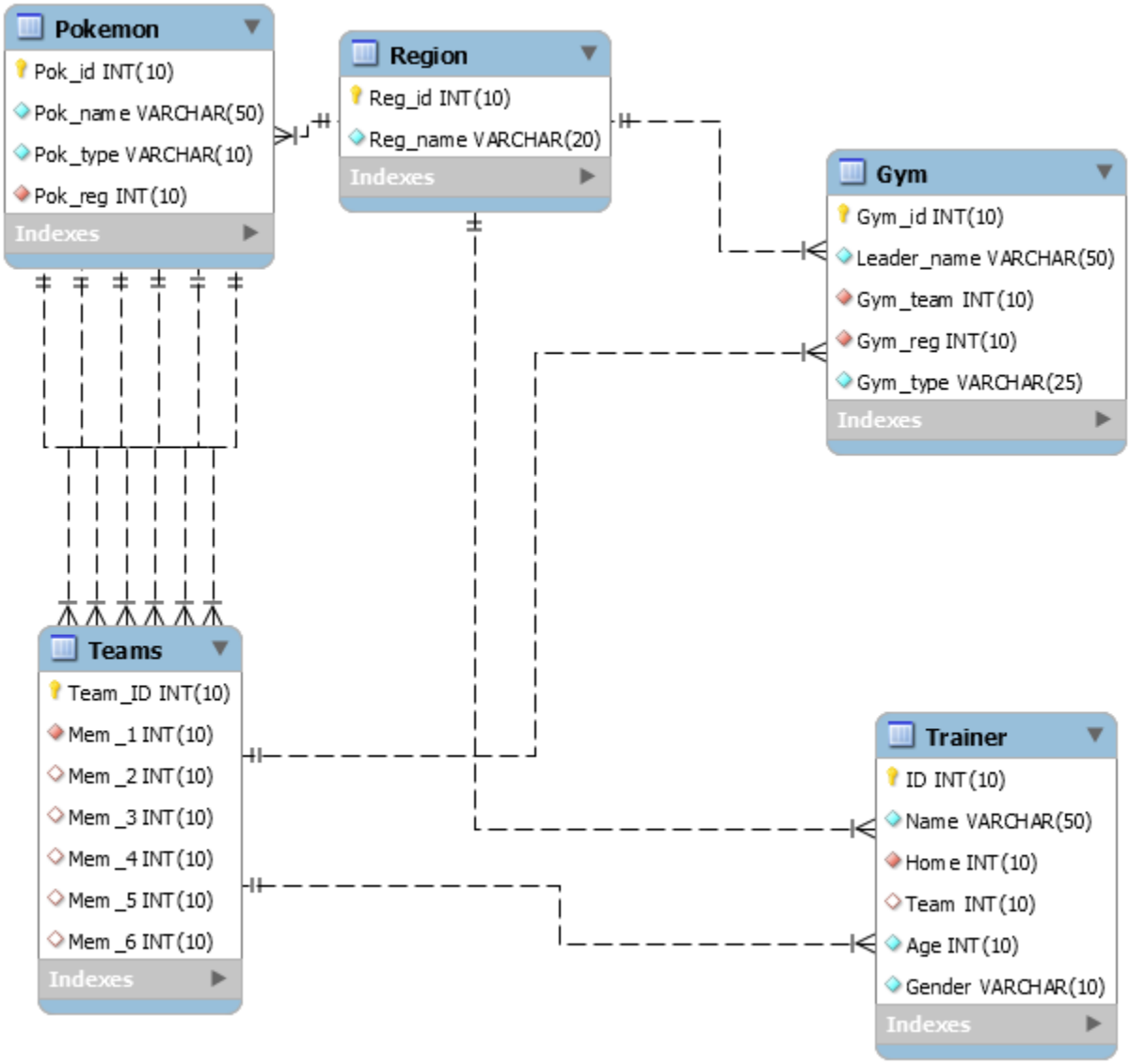
Project Outline

I will be making a database that represents the Pokémon universe. This is a universe where trainers capture "Pokémon" for various reasons, namely to battle one another. This universe has many interesting aspects, from gym leaders, to Pokémon types, to different regions. This applications will track the kinds of various Pokémon, and the main use case will be to view information on the Pokémon and to generate teams containing Pokémon, which can afterwards be viewed in another webpage.

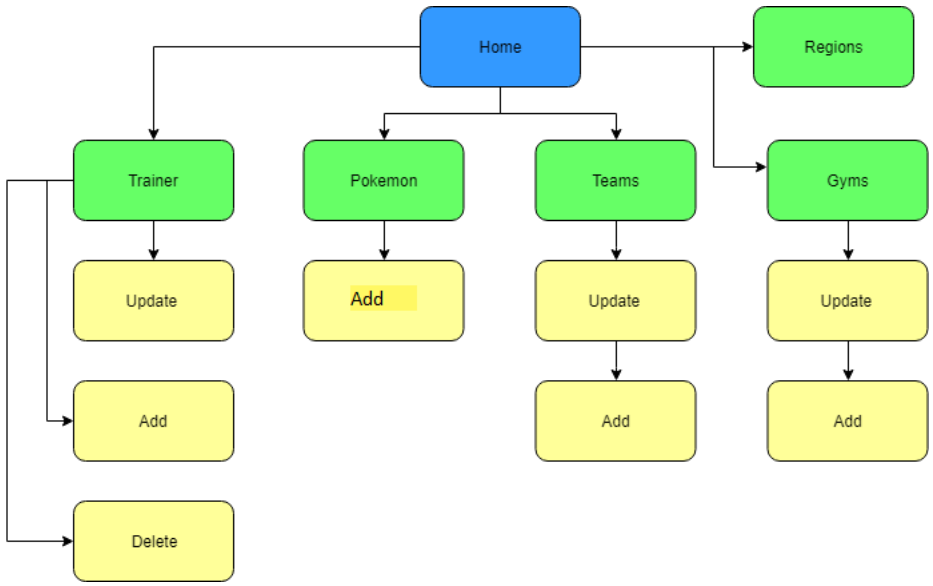
Database Overview

- Trainer – Contains information on trainers (users). Related to all other entities.
    - ID: Id of the trainer. Automatically assigned, incrementing. No NULL and no default. Primary Key
    - Name: Name of the trainer. Cannot be NULL and no default. Max length 100 characters
    - Home: Where the trainer is from. Dependent upon ID from region
    - Teams: ID of the teams owned by this trainer. Cannot NULL, no default.
    - Age: Age of the trainer. Cannot be Null, no default.
    - Gender: Gender of the trainer. Cannot be Null. No default
- Teams – Contains information on the teams owned by different trainers. Related to Trainer and Pokemon
    - Team_ID: Automatically assigned, incrementing. Cannot be NULL and no default.
    - Mem_(1-6): ID numbers of pokemon that are in this team. Dependent upon pokemon. Cannot be NULL, no default.
- Region – Contains information on the region everything else is located in, and as such is related to all other entities
    - Reg_id: Automatically assigned incrementing value, used by other entities to refer to specific regions. Cannot be Null and no default. Primary Key.
    - Reg_name: Name of the region, max length of 100 characters. It cannot be NULL and there is no default
- Gym – Contains information on gym leader, the region located, and pokemon used
    - Leader_name: Name of the gym leader. It cannot be NULL and there is no default. Max length of 100
    - Gym_team: ID of the team used by this gym. Cannot be NULL, no default.
    - Gym_reg: Cannot be NULL and no default. Dependent up Reg_id from Region
    - Gym_id: Cannot be null and no default. Auto incrementing value. Primary key.
    - Gym_type: The type of pokemon used at this gym. Cannot be null and no default.
- Pokemon –Relation with Region and with Teams. Attributes as follows:
    - Pok_id: This incrementing value is automatically assigned when a pokemon is added to the database, and is the primary key.
    - Pok_name: Name of the pokemon, max length of 100 characters. It cannot be NULL and there is no default
    - Pok_type: Type of the pokemon, max length 50 characters. It cannot be NULL and the default is normal
    - Pok_reg: The home region of the Pokémon. This cannot be null and there is no default.

Database Design




Website Design




Page-specific Design

Home: This page will be used to explain what the purpose of the web based application is. The only UI components to be used will be the top bar which will allow the user to go to other pages. This page will communicate through GET exclusively, as it will not be updating any databases. No SQL queries will need to be made, as the information on this page will not reference the database.

Pokemon: This page will list all of the pokemon currently in the database. The UI components used will be the top bar to navigate to other pages. This page will operate through GET to load the page and populate it with all pokemon in the database. A POST request may be made if the user wants to add a pokemon to the database. SQL queries may be

SELECT Pok_id, Pok_name, Pok_type, Reg_name FROM Pokemon, Region WHERE Pok_reg = Reg_id

INSERT INTO Pokemon (Pok_name, Pok_type, Pok_reg) Values ([Pok_name], [Pok_Type], [Pok_reg])

User will not be able to delete pokemon. Will implement a UI component to limit reg and type to real values. For example, type would not be able to be set to “Bob Dylan”. This limitation will apply to regions as well

Gyms: This page will list all of the gyms currently in the database. This page will operate through GET to load the page and populate it with gyms. The user will be able to add gyms and update current gyms through POST requests. SQL queries may be

SELECT Gym_id, Leader_name, Gym_type, Gym_team, Reg_name FROM Gym, Region WHERE Gym_reg = Reg_id

INSERT INTO Gym (Leader_name, Gym_type, Gym_team) Values ([Leader_name], [Gym_Type], [Gym_reg])

UPDATE Gym SET Leader_name = [leader_name], Gym_team = [Team_ID] WHERE Gym_id = [ID]

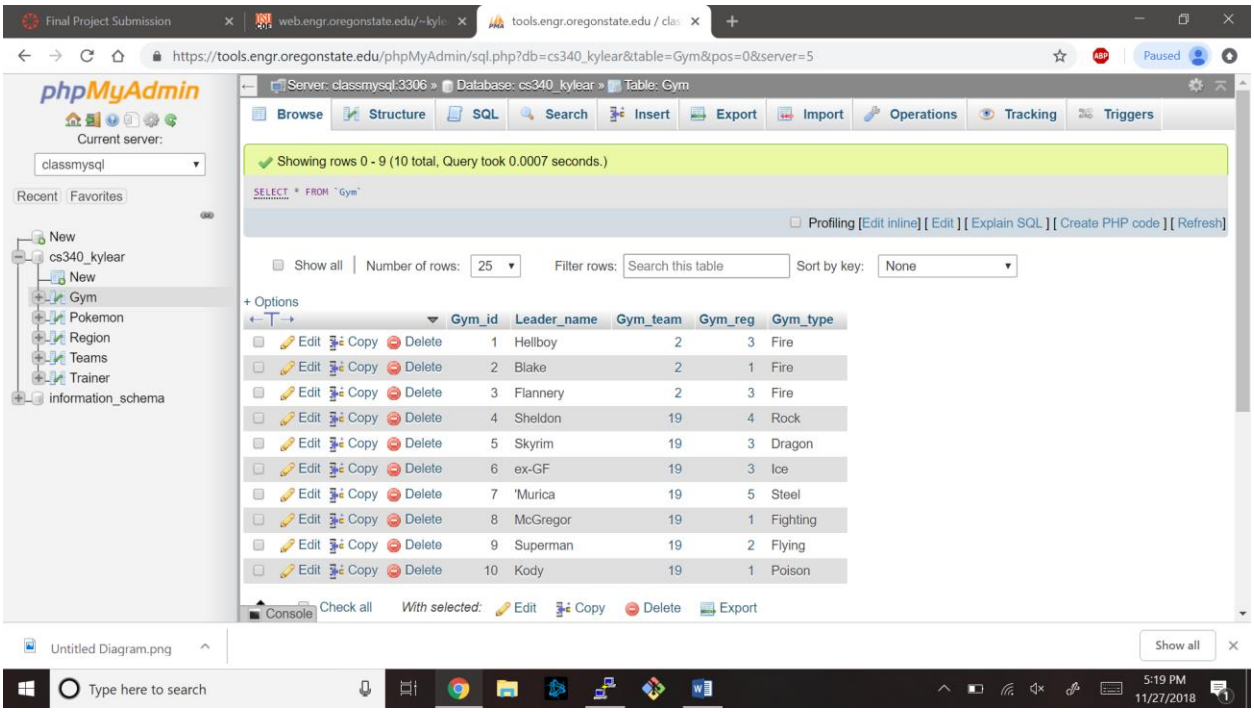
**Trainer**: This page will initially show all trainers that exist in the database through GET requests sent to fill the page. POST requests will be sent when the user wants add a new trainer, whenever the user wants to update a currently existing trainer, and whenever the user wants to delete a currently existing user. There will be a navbar at the top as always to allow the user to go to other pages. This page has the most user interaction, implementing full CRUD compatibility. SQL queries may be:

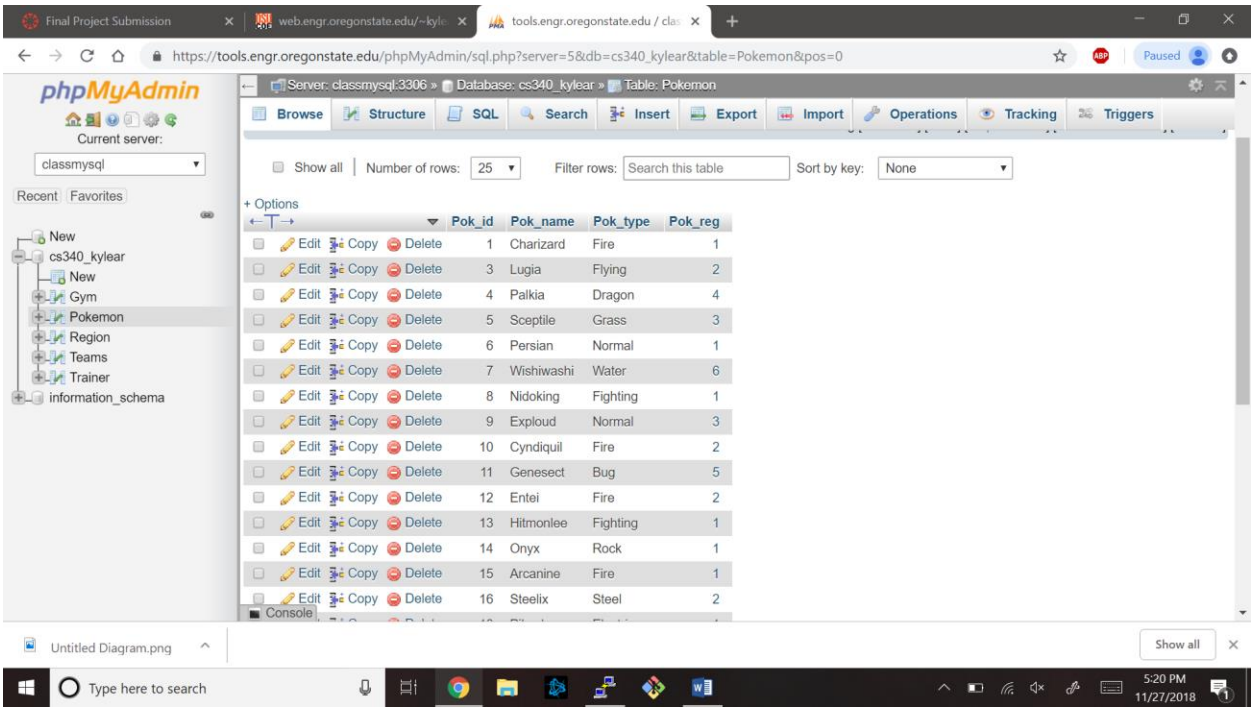
INSERT INTO Trainer(Name, Home, Team, Age, Gender) VALUES ([Name], [Region], [team], [age], [gender])

SELECT ID, Name, Reg_name, Team, Age, Gender FROM Trainer, Region WHERE Home = Reg_id

UPDATE Trainer SET Name = [name], Home = [reg_id], Team = [team_id], Age = [age] WHERE ID = [id]

DELETE FROM Trainer WHERE ID = [id]




Final Project Submission
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https://tools.engr.oregonstate.edu/phpMyAdmin/sql.php?server=5&db=cs340_kylear&table=Pokemon&pos=0
Paused
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Current server:
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Recent Favorites
New
cs340_kylear
New
Gym
Pokemon
Region
Teams
Trainer
information_schema
Server: classmysql:3306 » Database: cs340_kylear » Table: Pokemon
Browse Structure SQL Search Insert Export Import Operations Tracking Triggers
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
+ Options
Pok_id Pok_name Pok_type Pok_reg
Edit Copy Delete 1 Charizard Fire 1
Edit Copy Delete 3 Lugia Flying 2
Edit Copy Delete 4 Palkia Dragon 4
Edit Copy Delete 5 Sceptile Grass 3
Edit Copy Delete 6 Persian Normal 1
Edit Copy Delete 7 Wishiwashi Water 6
Edit Copy Delete 8 Nidoking Fighting 1
Edit Copy Delete 9 Exploud Normal 3
Edit Copy Delete 10 Cyndiquil Fire 2
Edit Copy Delete 11 Genesect Bug 5
Edit Copy Delete 12 Entei Fire 2
Edit Copy Delete 13 Hitmonlee Fighting 1
Edit Copy Delete 14 Onyx Rock 1
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Edit Copy Delete 16 Steelix Steel 2
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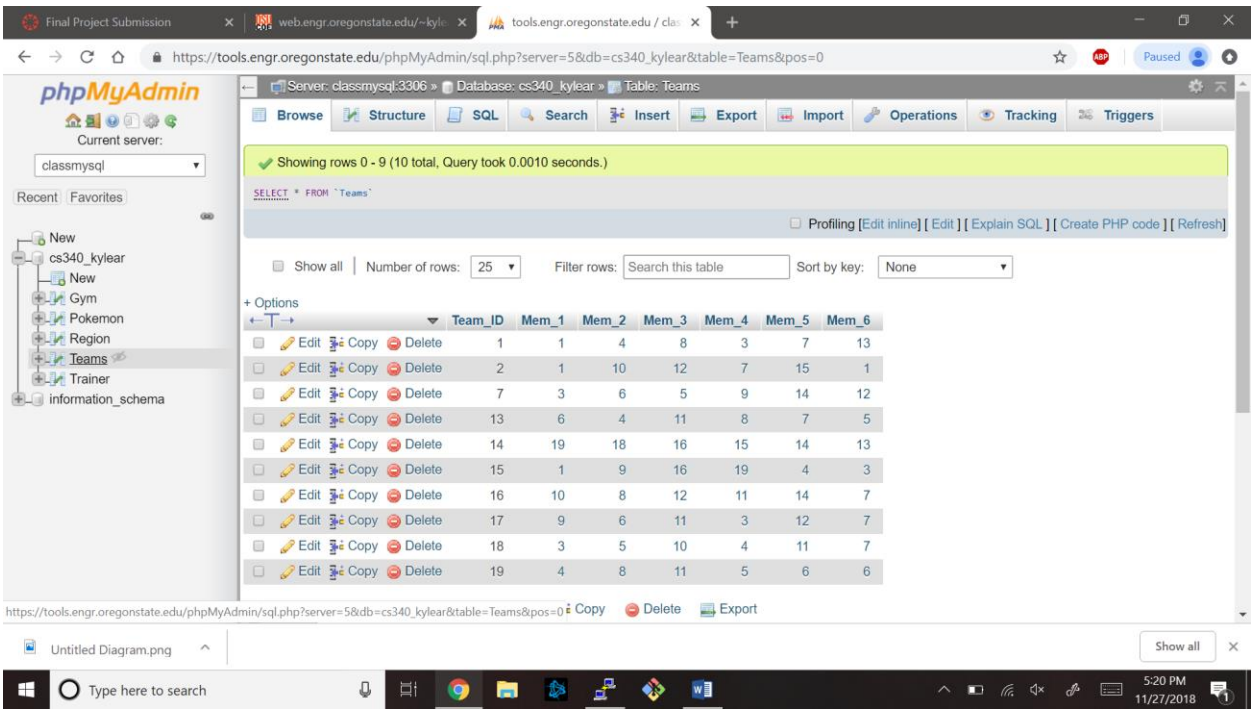
Final Project Submission
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https://tools.engr.oregonstate.edu/phpMyAdmin/sql.php?server=5&db=cs340_kylear&table=Teams&pos=0
Paused
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Current server:
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Recent Favorites
New
cs340_kylear
New
Gym
Pokemon
Region
Teams
Trainer
information_schema
Server: classmysql:3306 » Database: cs340_kylear » Table: Teams
Browse Structure SQL Search Insert Export Import Operations Tracking Triggers
Showing rows 0 - 9 (10 total, Query took 0.0010 seconds.)
SELECT * FROM `Teams`
Profiling [Edit inline] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh]
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
+ Options
Team_ID Mem_1 Mem_2 Mem_3 Mem_4 Mem_5 Mem_6
Edit Copy Delete 1 1 4 8 3 7 13
Edit Copy Delete 2 1 10 12 7 15 1
Edit Copy Delete 7 3 6 5 9 14 12
Edit Copy Delete 13 6 4 11 8 7 5
Edit Copy Delete 14 19 18 16 15 14 13
Edit Copy Delete 15 1 9 16 19 4 3
Edit Copy Delete 16 10 8 12 11 14 7
Edit Copy Delete 17 9 6 11 3 12 7
Edit Copy Delete 18 3 5 10 4 11 7
Edit Copy Delete 19 4 8 11 5 6 6
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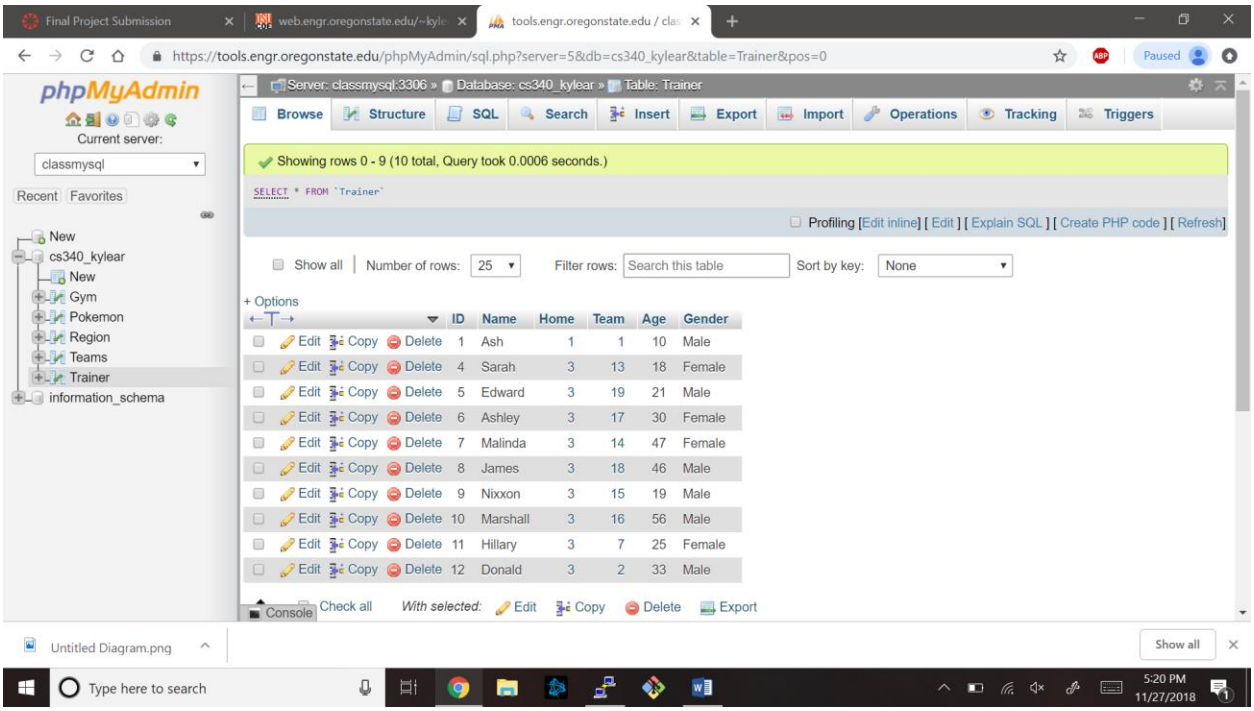
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cs340_kylear
New
Gym
Pokemon
Region
Teams
Trainer
information_schema
Server: classmysql:3306 » Database: cs340_kylear » Table: Trainer
Browse Structure SQL Search Insert Export Import Operations Tracking Triggers
Showing rows 0 - 9 (10 total, Query took 0.0006 seconds.)
SELECT * FROM `Trainer`
Profiling [Edit inline] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh]
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
+ Options
ID Name Home Team Age Gender
Edit Copy Delete 1 Ash 1 1 10 Male
Edit Copy Delete 4 Sarah 3 13 18 Female
Edit Copy Delete 5 Edward 3 19 21 Male
Edit Copy Delete 6 Ashley 3 17 30 Female
Edit Copy Delete 7 Malinda 3 14 47 Female
Edit Copy Delete 8 James 3 18 46 Male
Edit Copy Delete 9 Nixxon 3 15 19 Male
Edit Copy Delete 10 Marshall 3 16 56 Male
Edit Copy Delete 11 Hillary 3 7 25 Female
Edit Copy Delete 12 Donald 3 2 33 Male
Console Check all With selected: Edit Copy Delete Export
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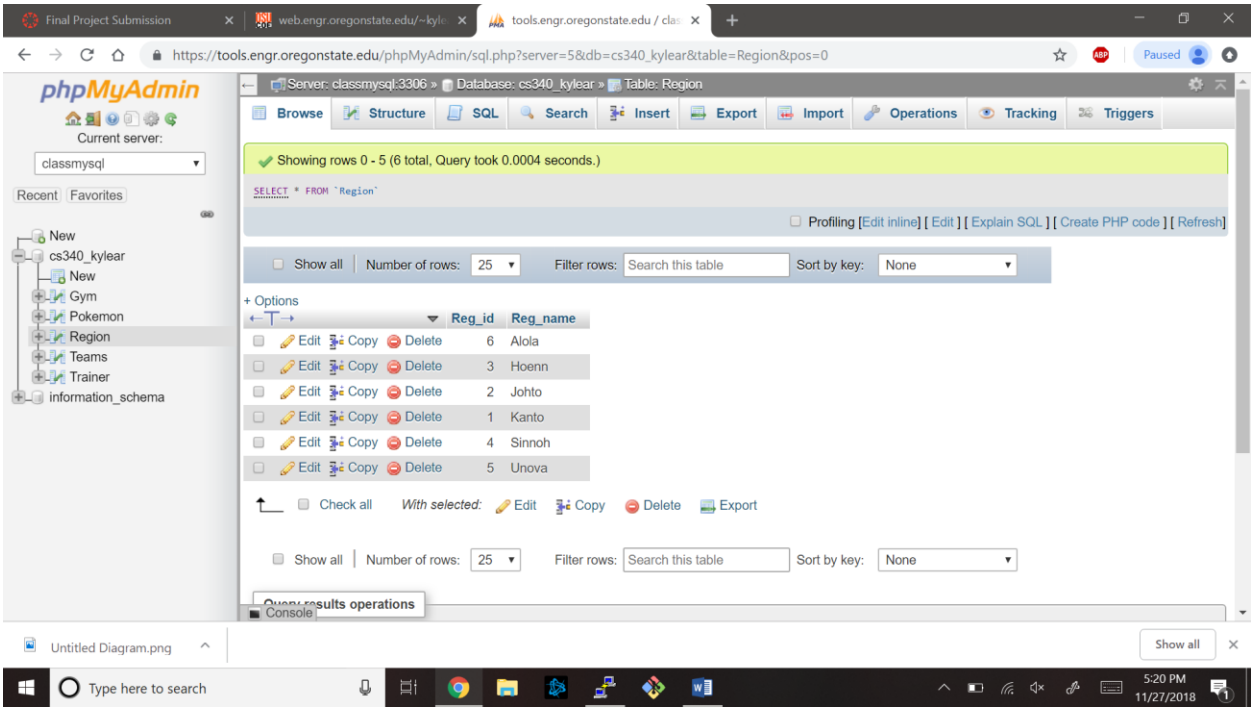
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Trainer
information_schema
Server: classmysql:3306 » Database: cs340_kylear » Table: Region
Browse Structure SQL Search Insert Export Import Operations Tracking Triggers
Showing rows 0 - 5 (6 total, Query took 0.0004 seconds.)
SELECT * FROM `Region`
Profiling [Edit inline] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh]
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
+ Options
Reg_id Reg_name
Edit Copy Delete 6 Alola
Edit Copy Delete 3 Hoenn
Edit Copy Delete 2 Johto
Edit Copy Delete 1 Kanto
Edit Copy Delete 4 Sinnoh
Edit Copy Delete 5 Unova
Check all With selected: Edit Copy Delete Export
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
Query results operations
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