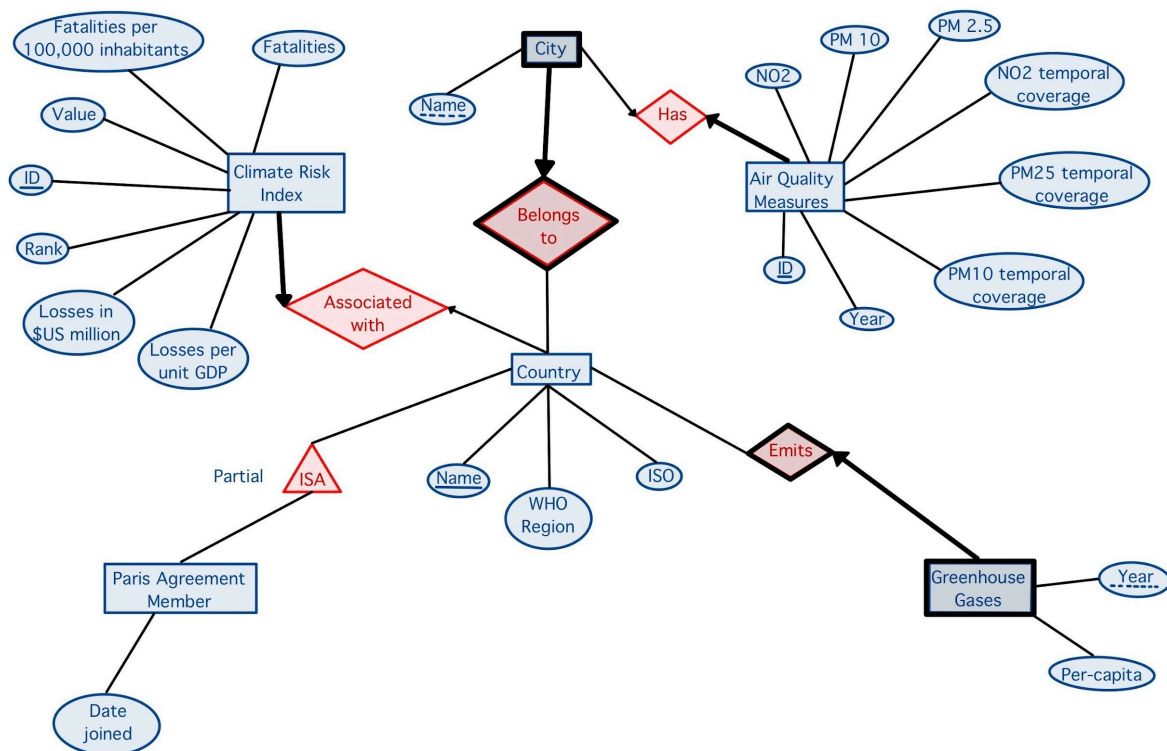# CPSC368 Assignment 4

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ER Diagram

We made some small adjustments to our previous ER diagram. Firstly, due to the advice of the TA, we put WHO region as an attribute instead of an entity. We opted to make this change because in the previous iteration of our ER diagram, there was no other meaningful information stored in the WHO Region entity, and storing it as an attribute of Country will allow us to group countries by WHO Region. Secondly, we altered the primary key of Greenhouse Gases to Year, thereby changing it into a weak entity. We decided it was necessary for the primary key to consist of more meaningful attributes to support ease of use once the database is populated with instances. Finally, we changed the primary key of Climate Risk Index to ID, because Rank (which was kept as an attribute) is not unique; the dataset handled 'tied' Climate Risk scores between Countries by assigning them the same rank.

Relational Schema

Primary Key
Foreign Key
Candidate key

Country(Country_Name, WHO_Region, ISO)

City(City_Name, **Country_Name**)

Air_Quality_Measures(ID, *City_Name, Country_Name*, Year, NO2, PM10, PM2.5, NO2_temporal_coverage, PM2.5_temporal_coverage, PM10_temporal_coverage)

Greenhouse_Gasses(Year, **Country_Name,** Per_Capita_GHG)

Paris_Agreement_Member(**Country_Name,** Date_joined)

Climate_Risk_Index(Id, *Country_Name,* Rank, Value, Fatalities, Fatalities_per _00000_inhabitants, Lossses_in_US_million, Losses_per_unit_GDP)

Running the python file

Please make sure the file structure resembles the following before running the jupyter python notebook:

```
project/
├── data/
│   ├── CPSC368 DATA - Air Quality.csv
│   ├── CPSC368 DATA - GHG Emissions.csv
│   ├── CPSC368 DATA - Global Climate Index.csv
│   ├── CPSC368 DATA - Paris Agreement.csv
│   └── insert_statements.txt    (EMPTY TEXT FILE!)
├── create_insert_statements.ipynb
```

Running the SQL file

As discussed with Professor Wong, when running the full SQL file we get the following error: "ORA-01536: space quota exceeded for tablespace 'USERS'." This error seems to be because we have many insert table statements. Therefore, we have also submitted a version of our SQL file with fewer insert statements that runs with no errors.