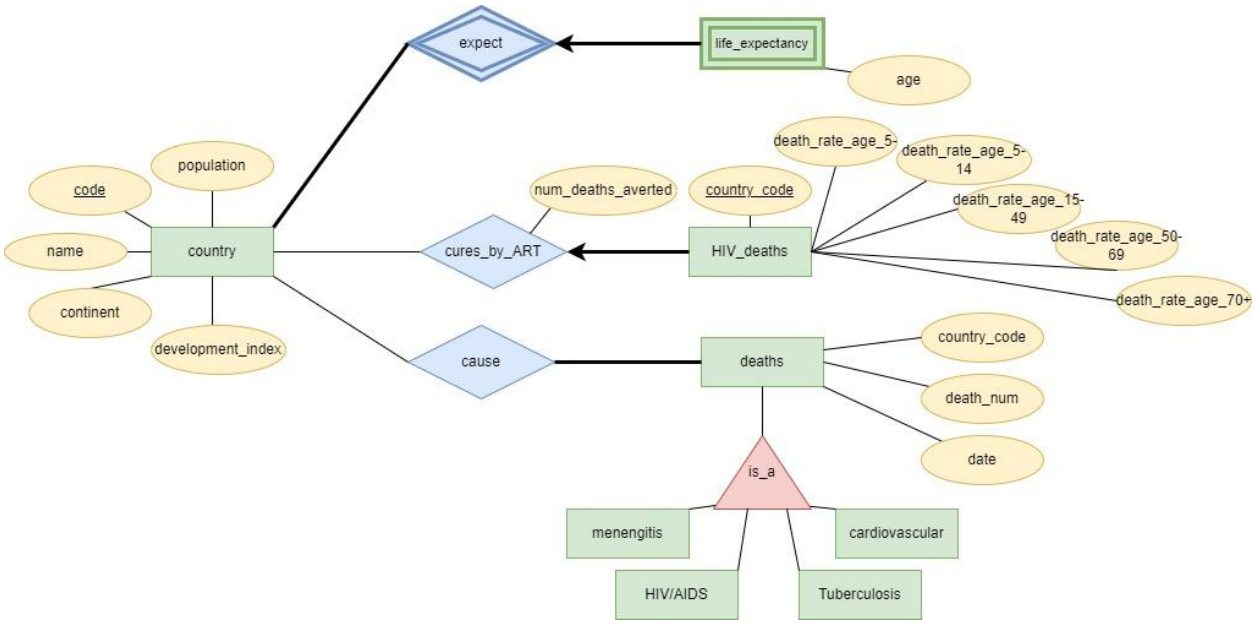
We realized that there are some mistakes and complications in our former ER model when we took advice from our TA Semih Yılmaz. Because of that we created a new ER model with correcting the mistakes. Here is our modified ER model.



While converting our ER diagram into a relational model:

1)We converted the “country” and “life_expectancy” entities into tables and we also converted the relation between them which is the relation named “expect” into a table.

2)We converted country and HIV_death entities into tables and we also converted the relation between them which is the relation named “cured_by_ART” into a table.

3)We converted the “country” and “deaths” entities into tables and we also converted the relation between them which is the relation named “cause” into a table.

Here is our SQL code:

```
drop database if exists Artisan;
create database if not exists Artisan;
use Artisan;

create table country (
```

```
    name VARCHAR(255) NOT NULL,
    population BIGINT,
    country_code VARCHAR(10) primary key NOT NULL,
    development_index FLOAT,
    continent VARCHAR(20)
);

create table life_expectancy (
        country_code VARCHAR(20) NOT NULL,
    age FLOAT,
    FOREIGN KEY(country_code) REFERENCES
country(country_code)
);

create table HIV_deaths (
        country_code VARCHAR(10) primary key NOT NULL,
    death_rate_age_under_5 FLOAT,
    death_rate_age_5_14 FLOAT,
    death_rate_age_14_49 FLOAT,
    death_rate_age_50_69 FLOAT,
    death_rate_age_over_70 FLOAT
);

create table deaths (
    country_code VARCHAR(10) NOT NULL,
    date VARCHAR(10),
    death_num INT,
    disease_type VARCHAR(255),
    FOREIGN KEY (country_code) REFERENCES
country(country_code)
);

create table expect (
        country_code VARCHAR(10) NOT NULL,
    FOREIGN KEY(country_code) REFERENCES
country(country_code)
);

create table cures_by_ART (
        country_code VARCHAR(10) NOT NULL,
    num_deaths_averted INT,
```

```
   FOREIGN KEY (country_code) REFERENCES
HIV_deaths(country_code)
);
```

Explanation of the files in Github:

1) **Dataset Folder:** The folder that contains the csv files

   i)Countries and Populations.csv: The csv file which
   data of the countries and their populations in a certain

   ii)Death Averted due to ART Treatment.csv: The csv
   contains the data of the number of AIDS patients save
   treatment in countries in a certain year.

   iii)HIV_Death_Rates_by_Age.csv: The csv file that co
   data of the death by AIDS rate of the age groups in cou
   certain year.

   iv) Human Development Indexes of Countries.csv:
   that contains the data of the development indexes of co
   certain year
   .
   v)Life Expectancy in Countries.csv: The csv file that
   data of the life expectancies in countries in a certain ye

   vi)Number of Deaths by Cause.csv: The csv file that
   data of the number of deaths caused by different disea
   countries in a certain year.

   vii)Share of Aids in Deaths.csv: The csv file that con
   of the ratio of the deaths caused by AIDS with the total
   countries in a certain year.

2)Documents: The folder that contains our ER diagram.

3)SQL_scripts: The folder that contains the SQL code of our r
model.

Here is the link for our Github repository:

https://github.com/bkabadayii/CS306-Project-Artisan