World Populations

Overview

This project is slightly different than others you have encountered thus far on Codecademy. Instead of a step-by-step tutorial, this project contains a series of open-ended requirements which describe the project you'll be building. There are many possible ways to correctly fulfill all of these requirements, and you should expect to use the internet, Codecademy, and other resources when you encounter a problem that you cannot easily solve.

Project Goals

You'll work with a dataset of world population by country data from recent years. You'll write queries to retrieve interesting data and answer a set of specific questions.

Setup Instructions

If you choose to do this project on your computer instead of Codecademy, you can download what you'll need by clicking the "Download" button below. If you need help setting up your computer, be sure to check out our SQLite setup guide. You can then run SQL commands from your terminal, or install DB Browser to run SQL commands from a desktop application. Our article on running SQL commands in DB Browser will walk you through opening a database file and running queries.

In order to complete this project, you should have completed the Learn SQL Manipulation, Queries, Aggregate Functions, and Multiple Tables lessons in our Learn SQL course.

Project Requirements: In this project, you'll answer questions using a database of world population by country. There are two tables:
`countries`

Column	Type	Notes
id	INTEGER	Primary Key
name	TEXT	
continent	TEXT	

`population_years`

Column	Type	Notes
id	INTEGER	Primary Key
population	NUMBER	(in millions)
year	NUMBER	
country_id	INTEGER	Foreign Key

Refer to this schema as you write queries to the database.
When you finish this project, you should be able to answer each the questions that follow using a single SQL query.

1. How many entries in the countries table are from Africa?

```
select count(*)
from countries
where continent  = 'africa';
```

2. What was the total population of the continent of Oceania in 2005?

```
select sum(population) as pop_oceania_tot
from population_years
join countries
on countries.id = population_years.country_id
where continent  = 'oceania'
and year = 2005;
```

3. What is the average population of countries in South America in 2003?

```
select avg(population) as pop_sa_avg
from population_years
join countries
on countries.id = population_years.country_id
where continent  = 'south america'
and year = 2003;
```

4. What country had the smallest population in 2007?

```
select name, population
from population_years
join countries
on countries.id = population_years.country_id
where year = 2007
and population is not null
order by 2 asc
limit 1;
```

5. What is the average population of Poland during the time period covered by this dataset?

```
with poland_pop as
(select name, year, population
from population_years
join countries
on countries.id = population_years.country_id
where name  = 'poland')
select avg(population) as avg_pop_poland_
from poland_pop;
```

6. How many countries have the word "The" in their name?

```
select count(distinct(name))
from countries
where name like '%the%';
```

7. What was the total population of each continent in 2010?

```
select continent, sum(population)
from population_years
join countries
on countries.id = population_years.country_id
where year = 2010
and population is not null
group by 1
order by 2 desc;
```