

University of Washington, CSE 190 M, Spring 2009

Section 9: Query as Folk (Databases/SQL)

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Today we will develop several SQL queries against the `world` and `simpsons` databases.

Show Answers

world Database Queries:

Write an SQL query to answer each of the following questions. Recall the `world` database:

countries

code	name	continent	independence_year	population	gnp	head_of_state	...
AFG	Afghanistan	Asia	1919	22720000	5976.0	Mohammad Omar	...
NLD	Netherlands	Europe	1581	15864000	371362.0	Beatrix	...
...

cities

id	name	country_code	district	population
3793	New York	USA	New York	8008278
1	Los Angeles	USA	California	3694820
...

languages

country_code	language	official	percentage
AFG	Pashto	T	52.4
NLD	Dutch	T	95.6
...

1. What languages are spoken in the United States (`country_code` 'USA')? Show the language and the percentage. Order by percentage from largest to smallest.
2. List all of the official languages spoken around the world in alphabetical order.
3. What country/countries use English as their exclusive language? (Hint: Use the percentage.)
4. List the names of all countries in Antarctica.
5. What countries have a life expectancy of 78 years or more? List the county names and life expectancies, sorted by greatest to least life expectancy.
6. List all continents and all regions within them. Make it easy to see regions for each contient.
7. Which countries received their independence before 0 AD? Show both the name and the year. (Hint: BC years are negative values.)
8. Which countries have the same local name as their official name? Show them in sorted order.
9. What countries have the word "Republic" as part of their name?
10. What countries have a monarchy as their form of government?
11. List all countries in Europe, Oceania, and Antarctica, sorted by continent.
12. Which countries have a GNP between \$10,000 AND \$50,000?
13. List the countries whose names start with either A or B.
14. Which countries have the densest population (population divided by surface area)? Show the densest ones at the top.

simpsons Database Queries:

Write an SQL query to answer each of the following questions. Recall the simpsons database:

students		
id	name	email
123	Bart	bart@fox.com
456	Milhouse	milhouse@fox.com
888	Lisa	lisa@fox.com
404	Ralph	ralph@fox.com

teachers	
id	name
1234	Krabappel
5678	Hoover
9012	Stepp

courses		
id	name	teacher_id
10001	Computer Science 142	1234
10002	Computer Science 143	5678
10003	Computer Science 190M	9012
10004	Informatics 100	1234

grades		
student_id	course_id	grade
123	10001	B-
123	10002	C
456	10001	B+
888	10002	A+
888	10003	A+
404	10004	D+

1. List all grades where a student was given a B- or better.
2. List all of the grades given in the course Computer Science 190M (2 Steps). You'll need to find out 190M's id number first.
3. List the names of all students that took Computer Science 143 (3 Steps). You'll need to find out 143's id number and the students' id numbers first.

Viewing a Query in PHP:

Now let's write a page that displays the result of a query in PHP. Start from the following files:

- [cities.php](#) (initial HTML/CSS code)

Click the following image to run our sample solution ([solution source code](#)):



Top 3 Biggest Cities

City	Population
New York	8008278
Los Angeles	3694820
Chicago	2896016