

Assignment 2

TOTAL: 50 pts + 20 Bonus pts

Following are 7 questions, 10 points each. The last one is a research question; you'll have to search the web in order to find the answer.

You will need two databases, "world" and "album", to complete the assignment. Scripts that create and populate databases are provided in Asg02_Databases.zip file next to this assignment.

What to submit:

1. SQL script file with the solutions of the first 6 problems.
2. Word document with 6 screen shots of the results of execution of all 6 queries.
3. Word document or just text file with the answer to the last 7-th question.

Following are the questions related to the data stored in the "world" database.

Write SQL queries that will provide the requested information.

1. Find the city with the largest population. Your query must produce the answer in the format shown below. Make sure that the columns (fields) are named exactly as in the screen shot.

	City Name	Country Code	Population
►	Mumbai (Bombay)	IND	10500000

2. Find all the country codes where English is not official language and more than 0% and less than 50% of population speak English. Order the results by percentage from lowest to highest.
See the expected result below, it should have a total of 10 rows. Make sure that the fields are named exactly as in the screen shot.

	Code of Country	Not Official Language	Percentage of Population Speaking the Language
►	JPN	English	0.1
	DNK	English	0.3
	NOR	English	0.5
	MAC	English	0.5
	MYS	English	1.6
	BRN	English	3.1
	MCO	English	6.5
	ANT	English	7.8
	ABW	English	9.5
	PRI	English	47.4

3. Get the names and Life Expectancy for population of all the countries that have names starting from letters A, D, and F. Eliminate all countries with Life Expectancy value set to NULL and sort the resulting table in alphabetical order. The result must have 24 rows. See part of it below.

REQUIREMET: Use LEFT function and IN phrase. DO NOT use LIKE.

	Name	LifeExpectancy
►	Afghanistan	45.9
	Albania	71.6
	Algeria	69.7
	American Samoa	75.1
	Andorra	83.5
	Angola	38.3
	Anguilla	76.1
	Antigua and B...	70.5
	Argentina	75.1
	Armenia	66.4
	Aruba	78.4
	Australia	79.8
	Austria	77.7
	Azerbaijan	62.9
	Denmark	76.5
	Djibouti	50.8
	Dominica	73.4

4. Find small countries in the database. The country is small if the population of it is less than 100,000. Exclude the countries that belong to Antarctica region. The result should include region, country name and local country name in one column (see screen shot below), continent and population. Order the results by region and then by country name. Make sure that the columns are named exactly as in the screen shot. There should be 42 rows in the result.

Region	Country Name and Local Name	Continent	Population
Australia and New Zealand	Christmas Island (Christmas Island)	Oceania	2500
Australia and New Zealand	Cocos (Keeling) Islands (Cocos (Keeling) Islands)	Oceania	600
Australia and New Zealand	Norfolk Island (Norfolk Island)	Oceania	2000
Caribbean	Anguilla (Anguilla)	North America	8000
Caribbean	Antigua and Barbuda (Antigua and Barbuda)	North America	68000
Caribbean	Cayman Islands (Cayman Islands)	North America	38000
Caribbean	Dominica (Dominica)	North America	71000
Caribbean	Grenada (Grenada)	North America	94000
Caribbean	Montserrat (Montserrat)	North America	11000
Caribbean	Saint Kitts and Nevis (Saint Kitts and Nevis)	North America	38000
Caribbean	Turks and Caicos Islands (The Turks and Caic...	North America	17000
Caribbean	Virgin Islands, British (British Virgin Islands)	North America	21000
Caribbean	Virgin Islands, U.S. (Virgin Islands of the Unite...	North America	93000
Eastern Africa	British Indian Ocean Territory (British Indian Oc...	Africa	0

Following are two questions related to the data stored in the “album” database.
Write SQL queries that will provide the requested information.

5. This query is for the track table. Assume that the track duration stored is measured in seconds. Get track number, title, duration in minutes (has to calculate that value) and duration in seconds for all the tracks in album with album_id 13. Sort the result by track number. See the screenshot below, make sure your column names are the same. There are 10 rows in resulting table.

	track_number	title	Duration in min	Duration in sec
▶	1	Birds of Fire	5	350
	2	Miles Beyond	4	287
	3	Celestial T...	2	174
	4	Sapphire B...	0	24
	5	Thousand I...	3	203
	6	Hope	1	119
	7	One Word	9	597
	8	Sanctuary	5	305
	9	Open Coun...	3	236
	10	Resolution	2	129

6. Get title, artist, release date, and label information from the album table for all the albums that were produced by Columbia label after Jan 1 1970. Release date should be in the format 'Mon-year', the results should be ordered alphabetically by the title. There will be 2 rows in result. Make sure that the columns are names as appears in the screen shot below.

	title	artist	Release Date	label
▶	Birds of Fire	Mahavishnu Orchestra	Mar-1973	Columbia
	Live And	Johnny Winter	May-1971	Columbia

7. Research question:
Out of all functions that we learned until now find 3 that do not exist in Microsoft SQL Server SQL dialect. Search Internet for this info. List the functions, their SQL Server equivalents (if exist) and the resources you used to find the info.