

Exercises : Select.

Goals:

- Establish SQL SELECT queries.

Exercise 1: SELECT

1. What is the Population of Canada ?

name	population
Canada	31281092

(1 row(s) affected)

2. Display the name, population, area, and population density of the largest countries in the world (those whose area exceeds 20,000,000 km2). Display the population density without any decimal points.

name	population	area	population density
Algeria	31193917	2381740	13
Antarctica	0	14000000	0
Argentina	36955182	2766890	13
Australia	19169083	7686850	2
Brazil	172860370	8511965	20
Canada	31281092	9976140	3
China	1261832482	9596960	131
Congo, Democratic Republic of the	51964999	2345410	22
Greenland	56309	2175600	0
India	1014003817	3287590	308
Kazakhstan	16733227	2717300	6
Russia	146001176	17075200	8
Sudan	35079814	2505810	13
United States	275562673	9629091	28

(14 row(s) affected)

3. Display the countries which are smaller than 2000 km2 but have a GDP greater than \$5,000,000,000. The displayed data should resemble the following : Singapore is in Southeast Asia

country/region
Bahrain is in Middle East
Hong Kong is in Southeast Asia
Macau is in Southeast Asia
Mauritius is in World
Singapore is in Southeast Asia

(5 row(s) affected)

4. Write a query that displays which of the following names are real country names : Sri Lanka, Ceylon, Persia, Iran.

```
Name
-----
Iran
Sri Lanka
```

(2 row(s) affected)

5. Write a query that displays the country names that start with D.

```
Name
-----
Denmark
Djibouti
Dominica
Dominican Republic
```

(4 row(s) affected)

6. Write a query that displays the area and country name of countries with an area between 207,600 km2 and 244,820 km2.

```
Name          area
-----
Belarus        207600
Ghana          238540
Guyana         214970
Laos           236800
Oman           212460
Romania        237500
Uganda         236040
United Kingdom 244820
```

(8 row(s) affected)

7. Write a query that displays the name and population of countries with a population of at least 200,000,000 people.

```
Name          population
-----
China          1261832482
India          1014003817
Indonesia      224784210
United States  275562673
```

(4 row(s) affected)

8. Write a query that displays name and area of countries with an area of at least 2,300,000km2. Display the results in descending order based on their area.

```
Name          area
-----
Russia         17075200
Antarctica     14000000
Canada         9976140
United States  9629091
China          9596960
Brazil         8511965
Australia      7686850
India          3287590
Argentina      2766890
Kazakhstan     2717300
Sudan          2505810
Algeria        2381740
Congo, Democratic Republic of the 2345410
```

(13 row(s) affected)

9. Display the names and GDP per capita of countries with a population of equal to or greater than 200,000,000 people, in descending order based on their respective GDP per capita.

name	GDP / capita \$US
United States	\$33585.83
China	\$3803.99
Indonesia	\$2713.71
India	\$1780.07

(4 row(s) affected)

Bonus (not to be submitted): same question but display name and GDP per capita for all countries. Consider the potential problem caused by a division by zero. (Suggestion: use the case clause)

10. Display the name and population in millions of people of all countries in South America. Population should be precise to the second decimal point. Use the `str()` function.

Name	population in millions
Brazil	172.9 M
Argentina	36.96 M
Peru	27.01 M
Chile	15.15 M
Ecuador	12.92 M
Bolivia	8.15 M
Paraguay	5.59 M
Uruguay	3.33 M
Guyana	0.70 M
Suriname	0.43 M
French Guiana	0.17 M
Falkland Islands (Islas Malvinas)	0.00 M

(12 row(s) affected)

11. Display the populations of Japan, China, Iraq, and Iran.

Name	population
China	1261832482
Iran	65619636
Iraq	22675617
Japan	126549976

(4 row(s) affected)

12. Write a query that displays the name of countries that contain the word "united". Results should be sorted by region.

Name
United Kingdom
United Arab Emirates
United States

(3 row(s) affected)

13. Display the population of France and Germany. Use the OR clause.

Name	population
France	59329691
Germany	82797408

(2 row(s) affected)

14. Display the names of all countries whose name starts with S and are in Europe.

Name
San Marino
Serbia and Montenegro
Slovakia
Slovenia
Spain
Sweden
Switzerland

(7 row(s) affected)

15. Display the last and first name of the authors whose last name is "Smith". They should be sorted by their first name, and the columns displayed must be named "Last Name" and "First Name." (1 record)

Last Name	First Name
Smith	Meander

(1 row(s) affected)

16. Display all the states. (8 records)

State
CA
IN
KS
MD
MI
OR
TN
UT

(8 row(s) affected)

17. Display the first and last names, city, and state of authors who live in the state of California ("CA") and do not live in the city of "Oakland", or live in the city of "Salt Lake City". (12 records)

au_lastname	au_firstname	city	state
White	Johnson	Menlo Park	CA
Carson	Cheryl	Berkeley	CA
O'Leary	Michael	San Jose	CA
Bennet	Abraham	Berkeley	CA
Dull	Ann	Palo Alto	CA
Gringlesby	Burt	Covelo	CA
Locksley	Charlene	San Francisco	CA
Yokomoto	Akiko	Walnut Creek	CA
Hunter	Sheryl	Palo Alto	CA
McBadden	Heather	Vacaville	CA
Ringer	Anne	Salt Lake City	UT
Ringer	Albert	Salt Lake City	UT

(12 row(s) affected)

18. Display the titles of all books whose price is between \$5.00 and \$20.00. Use the BETWEEN clause or the AND logical operation.

title	price
The Busy Executive's Database Guide	19.9900
Cooking with Computers: Surreptitious Balance Sheets	11.9500
Straight Talk About Computers	19.9900
Silicon Valley Gastronomic Treats	19.9900
Secrets of Silicon Valley	20.0000
Is Anger the Enemy?	10.9500
Life Without Fear	7.0000
Prolonged Data Deprivation: Four Case Studies	19.9900
Emotional Security: A New Algorithm	7.9900
Fifty Years in Buckingham Palace Kitchens	11.9500
Sushi, Anyone?	14.9900

(11 row(s) affected)

19. Display the titles and price of all books whose price is unknown.

title	price
The Psychology of Computer Cooking	NULL
Net Etiquette	NULL

(2 row(s) affected)

20. Display the last and first name of authors whose last name ends with the string "ger".

au_lastname	au_firstname
Ringer	Albert
Ringer	Anne
Stringer	Dirk

(3 row(s) affected)

21. Display the last and first names of the authors whose last name starts with D or d.

au_lastname	au_firstname
DeFrance	Michel
del Castillo	Innes
Dull	Ann

(3 row(s) affected)

22. Display the last and first names of authors whose name is 5-characters in size and end with the string "mith".

au_lastname	au_firstname
Smith	Meander

(1 row(s) affected)

23. Display the last and first names of all authors in one column named "Author Name". The second column should display the state the author lives in.

Author Name	state
White Johnson	CA
Green Marjorie	CA
Carson Cheryl	CA
O'Leary Michael	CA
Straight Dean	CA
Bennet Abraham	CA
Dull Ann	CA
Gringlesby Burt	CA
Locksley Charlene	CA
Yokomoto Akiko	CA
Stringer Dirk	CA
MacFeather Stearns	CA
Karsen Livia	CA
Hunter Sheryl	CA
McBadden Heather	CA
DeFrance Michel	IN
Smith Meander	KS
Panteley Sylvia	MD
del Castillo Innes	MI
Blotch-Halls Reginald	OR
Greene Morningstar	TN
Ringer Anne	UT
Ringer Albert	UT

(23 row(s) affected)