

Document highlight:

- Tool Installation
- Database and Table creation, including dataset import
 - Covid-19 dataset sampling
- SQL data exploration (query and results):
 - Display all from table
 - Global number of cases, deaths, and fatality rate
 - Display death % per continent
 - Calculate continent with highest % infection rate compared to its population
 - Calculate continent with highest % death rate compared to its population
 - Display total highest count per country (location)
 - Display death % per country (location)
 - Calculate % likelihood of dying if contracted in certain country
 - Calculate % of cases versus population per subset of country
 - Calculate % of death versus population per subset of country
 - Calculate country with highest % infection rate compared to its population
 - Calculate country with highest % death rate compared to its population
 - Total population versus vaccinations
 - Total population versus vaccinations with rolling vaccination numbers by country
 - Calculate % of people vaccinated by country (using CTE)
 - Calculate % of people vaccinated by country (using TEMP TABLE)
 - Create View table

1. Setup MySQL Workbench (community)

Download and install (follow installation guide):

<https://dev.mysql.com/downloads/installer/>

The screenshot shows the MySQL Community Downloads page for the MySQL Installer 8.0.40. The page has a dark header with the MySQL logo and the text "MySQL Community Downloads". Below the header, there is a navigation bar with "General Availability (GA) Releases", "Archives", and a download icon. The main content area is titled "MySQL Installer 8.0.40" and contains a note about MySQL 8.0 being the final series with MySQL Installer. Below the note, there are two dropdown menus: "Select Version:" with "8.0.40" selected, and "Select Operating System:" with "Microsoft Windows" selected. Below these, there is a table of download links for Windows (x86, 32-bit) MSI Installers. The table has three columns: the installer name, the version (8.0.40), and the size (2.1M and 306.4M). Each row has a "Download" button and a link to the MD5 checksum and GnuPG signature. At the bottom, there is a note suggesting users use MD5 checksums and GnuPG signatures to verify the integrity of the packages. The footer contains the Oracle logo and copyright information, along with links for Privacy, Do Not Sell My Info, Terms of Use, Trademark Policy, and Cookie Preferences.

MySQL Community Downloads

MySQL Installer

General Availability (GA) Releases Archives

MySQL Installer 8.0.40

Note: MySQL 8.0 is the final series with MySQL Installer. As of MySQL 8.1, use a MySQL product's MSI or Zip archive for installation. MySQL Server 8.1 and higher also bundle MySQL Configurator, a tool that helps configure MySQL Server.

Select Version:
8.0.40

Select Operating System:
Microsoft Windows

Windows (x86, 32-bit), MSI Installer (mysql-installer-web-community-8.0.40.0.msi)	8.0.40	2.1M	Download
		MD5: 42da8dc06ad328fe2451eeb3998fb016 Signature	
Windows (x86, 32-bit), MSI Installer (mysql-installer-community-8.0.40.0.msi)	8.0.40	306.4M	Download
		MD5: 8c1bf3a285d5e191e36dc334a18f55d2 Signature	

We suggest that you use the MD5 checksums and GnuPG signatures to verify the integrity of the packages you download.

ORACLE © 2024 Oracle

[Privacy](#) / [Do Not Sell My Info](#) | [Terms of Use](#) | [Trademark Policy](#) | [Cookie Preferences](#)



MySQL home screen



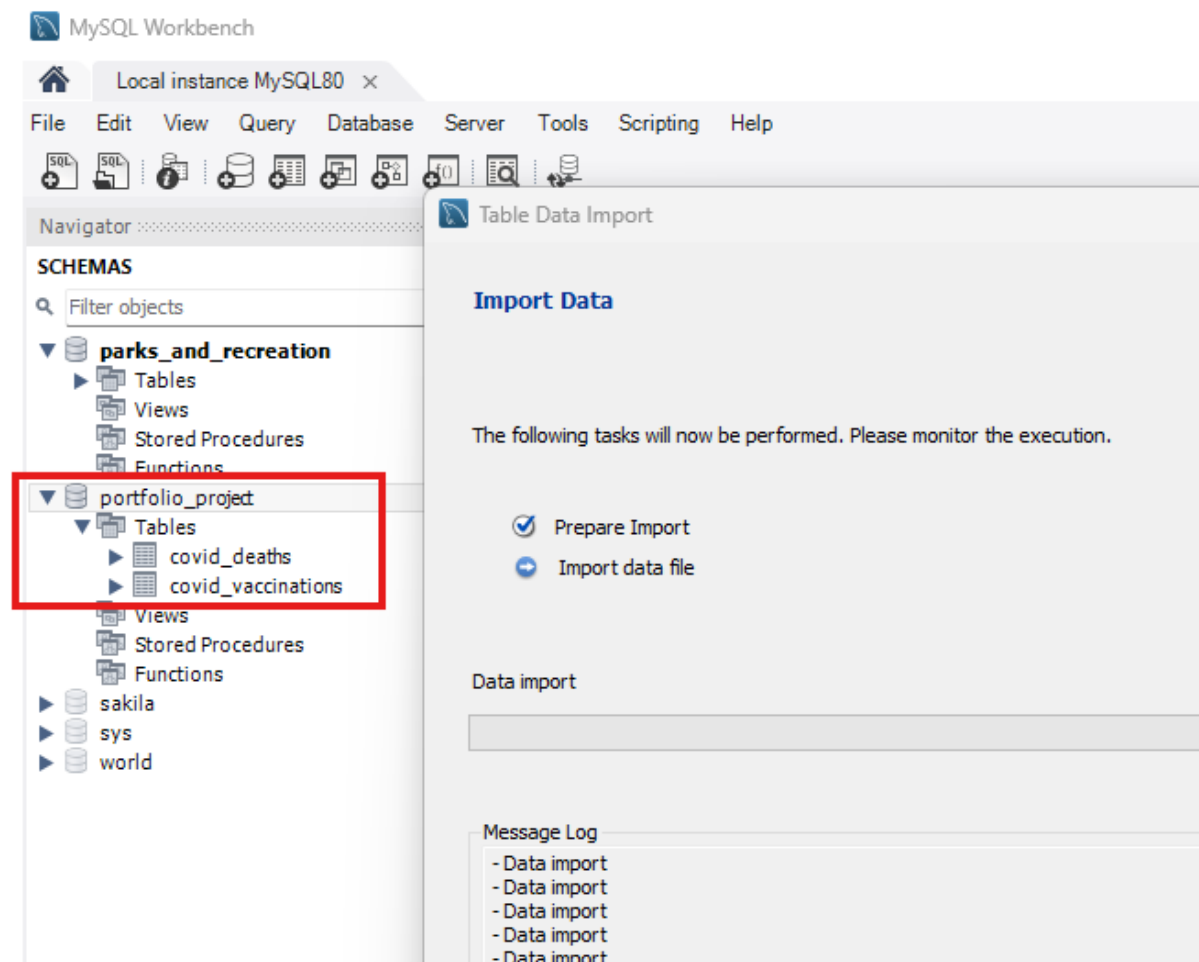
2. Create a database (create tables and load the set of data into it)

Sampling dataset (Covid-19 data):

<https://ourworldindata.org/coronavirus>

 Covid_Deaths	2024-10-26 8:07 PM	Microsoft Office E...	58,202 KB
 Covid_Vaccinations	2024-10-26 12:06 PM	Microsoft Office E...	105,020 KB

Create a database and import the file (going into the table) in MySQL Workbench:



3. Quick query run to ensure that (1) tables were created and (2) data were imported

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

park_and_recreation

portfolio_project

Tables

covid_deaths

covid_vaccinations

Views

Stored Procedures

Functions

sakila

sys

world

Limit to 10 rows

1 • SELECT * FROM portfolio_project.covid_deaths;

Result Grid

	iso_code	continent	location	date	population	total_cases	new_cases	new_cases_smoothed	total_deaths	new_deaths	new_deaths_smoothed	total
▶	AFG	Asia	Afghanistan	2020-01-05	41128772	0	0	NULL	0	0	NULL	0
	AFG	Asia	Afghanistan	2020-01-06	41128772	0	0	NULL	0	0	NULL	0
	AFG	Asia	Afghanistan	2020-01-07	41128772	0	0	NULL	0	0	NULL	0
	AFG	Asia	Afghanistan	2020-01-08	41128772	0	0	NULL	0	0	NULL	0
	AFG	Asia	Afghanistan	2020-01-09	41128772	0	0	NULL	0	0	NULL	0
	AFG	Asia	Afghanistan	2020-01-10	41128772	0	0	0	0	0	0	0
	AFG	Asia	Afghanistan	2020-01-11	41128772	0	0	0	0	0	0	0
	AFG	Asia	Afghanistan	2020-01-12	41128772	0	0	0	0	0	0	0
	AFG	Asia	Afghanistan	2020-01-13	41128772	0	0	0	0	0	0	0
	AFG	Asia	Afghanistan	2020-01-14	41128772	0	0	0	0	0	0	0

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

park_and_recreation

portfolio_project

Tables

covid_deaths

covid_vaccinations

Views

Stored Procedures

Functions

sakila

sys

world

Limit to 10 rows

1 • SELECT * FROM portfolio_project.covid_vaccinations;

Result Grid

	iso_code	continent	location	date	new_tests	total_tests	total_tests_per_thousand	new_tests_per_thousand	new_tests_smoothed	new_tests_sm
▶	AFG	Asia	Afghanistan	2020-01-05	NULL	NULL	NULL	NULL	NULL	NULL
	AFG	Asia	Afghanistan	2020-01-06	NULL	NULL	NULL	NULL	NULL	NULL
	AFG	Asia	Afghanistan	2020-01-07	NULL	NULL	NULL	NULL	NULL	NULL
	AFG	Asia	Afghanistan	2020-01-08	NULL	NULL	NULL	NULL	NULL	NULL
	AFG	Asia	Afghanistan	2020-01-09	NULL	NULL	NULL	NULL	NULL	NULL
	AFG	Asia	Afghanistan	2020-01-10	NULL	NULL	NULL	NULL	NULL	NULL
	AFG	Asia	Afghanistan	2020-01-11	NULL	NULL	NULL	NULL	NULL	NULL
	AFG	Asia	Afghanistan	2020-01-12	NULL	NULL	NULL	NULL	NULL	NULL
	AFG	Asia	Afghanistan	2020-01-13	NULL	NULL	NULL	NULL	NULL	NULL
	AFG	Asia	Afghanistan	2020-01-14	NULL	NULL	NULL	NULL	NULL	NULL

4. Display all from table

01-SQL Data Exploration x

File Edit View Query Database Server Tools Scripting Help

Limit to 10 rows

1 • -- Display all from table

2 • SELECT * FROM portfolio_project.covid_deaths ORDER BY 2,3;

Result Grid

	iso_code	continent	location	date	population	total_cases	new_cases	new_cases_smoothed	total_deaths	new_deaths	new_deaths_smoothed	total_cases_per_million	new_cases_per_million
▶	OWID_AFR	NULL	Africa	2020-01-24	1426736614	0	0	0	0	0	0	0	0
	OWID_AFR	NULL	Africa	2020-01-25	1426736614	0	0	0	0	0	0	0	0
	OWID_AFR	NULL	Africa	2020-01-26	1426736614	0	0	0	0	0	0	0	0
	OWID_AFR	NULL	Africa	2020-01-27	1426736614	0	0	0	0	0	0	0	0
	OWID_AFR	NULL	Africa	2020-01-28	1426736614	0	0	0	0	0	0	0	0
	OWID_AFR	NULL	Africa	2020-01-29	1426736614	0	0	0	0	0	0	0	0

75 12:43:14 SELECT * FROM portfolio_project.covid_deaths ORDER BY 2,3 38989 row(s) returned 0.110 sec / 0.078 sec

5. Global number of cases, deaths, and fatality rate

01-SQL Data Exploration

```
7
8  -- Global number of cases, deaths, and fatality rate
9  • SELECT
10     SUM(t_death.total_cases) AS 'Total Cases',
11     SUM(t_death.total_deaths) AS 'Total Deaths',
12     (SUM(t_death.total_deaths)/SUM(t_death.total_cases))*100 AS 'Percentage'
13 FROM
14     portfolio_project.covid_deaths AS t_death
15 WHERE
16     t_death.continent IS NOT NULL
17 ORDER BY
18     1,2
19 ;
20
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: ☐

Total Cases	Total Deaths	Percentage
37185813607	342132553	0.9201

76 12:47:15 SELECT SUM(t_death.total_cases) AS 'Total Cases', SUM(t_death.total_deaths) AS 'Total Deaths', (SUM(t_death.total_deaths)/SUM(t_death.total_cases))*100 AS 'Percentage' ... 1 row(s) returned 0.062 sec / 0.000 sec

6. Display death % per continent

01-SQL Data Exploration









```
24
25  -- Display covid death % per continent
26  • SELECT
27     continent AS 'Continent',
28     SUM(total_cases) AS 'Total Cases',
29     SUM(total_deaths) AS 'Total Deaths',
30     (SUM(total_deaths)/SUM(total_cases))*100 AS 'Percentage'
31 FROM
32     portfolio_project.covid_deaths
33 WHERE
34     continent IS NOT NULL
35 GROUP BY
36     continent
37 ORDER BY
38     1
39 ;
```

Result Grid				
Filter Rows:				
Export:				
Wrap Cell Content:				
	Continent	Total Cases	Total Deaths	Percentage
▶	Africa	467047326	10830799	2.3190
	Asia	4746768343	68187007	1.4365
	Europe	11565592419	80981252	0.7002
	North America	263325710	2720029	1.0330
	Oceania	9331000117	18062968	0.1936
	South America	10812079692	161350498	1.4923






77 13:02:50 SELECT continent AS 'Continent', SUM(total_cases) AS 'Total Cases', SUM(total_deaths) AS 'Total Deaths', (SUM(total_deaths)/SUM(total_cases))*100 AS 'Per...' 6 row(s) returned 0.110 sec / 0.000 sec

7. Calculate continent with highest % infection rate compared to its population

01-SQL Data Exploration





Don't Limit




```
41 -- Calculate continent with highest % infection rate compared to its population
42 SELECT
43     t_death.continent AS 'Continent',
44     MAX(t_death.total_cases) AS 'Highest Infected Count',
45     MAX((t_death.total_cases/t_death.population))*100 AS 'Percentage'
46 FROM
47     portfolio_project.covid_deaths AS t_death
48 WHERE
49     t_death.continent IS NOT NULL
50 GROUP BY
51     t_death.continent
52 ORDER BY
53     Percentage DESC
54 ;
55
```


Result Grid



Filter Rows:



Export:



Wrap Cell Content:

	Continent	Highest Infected Count	Percentage
▶	Europe	6082444	68.0400
	Asia	2051348	47.3200
	Oceania	11861161	45.3100
	North America	108582	41.5400
	South America	10101218	22.2000
	Africa	272139	0.6100

78 13:05:14 SELECT t_death.continent AS 'Continent', MAX(t_death.total_cases) AS 'Highest Infected Count', MAX((t_death.total_cases/t_death.population))*100 AS 'Percentage' 6 row(s) returned 0.094 sec / 0.000 sec

8. Calculate continent with highest % death rate compared to its population

01-SQL Data Exploration*

```
56 -- Calculate continent with highest % death rate compared to its population
57 • SELECT
58     t_death.continent AS 'Continent',
59     MAX(t_death.total_deaths) AS 'Highest Death Count',
60     MAX((t_death.total_deaths/t_death.population))*100 AS 'Percentage'
61 FROM
62     portfolio_project.covid_deaths AS t_death
63 WHERE
64     t_death.continent IS NOT NULL
65 GROUP BY
66     t_death.continent
67 ORDER BY
68     Percentage DESC
69 ;
70
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	Continent	Highest Death Count	Percentage
▶	Asia	29499	0.3200
	Europe	34339	0.2900
	South America	130663	0.2900
	North America	849	0.2700
	Oceania	25236	0.1000
	Africa	6881	0.0200

79 13:06:23 SELECT t_death.continent AS 'Continent', MAX(t_death.total_deaths) AS 'Highest Death Count', MAX((t_death.total_deaths/t_death.population))*100 AS 'Percentage'... 6 row(s) returned 0.125 sec / 0.000 sec

9. Display total highest count per country (location)

01-SQL Data Exploration*

```
75 -- Display total highest count per country (location)
76 • SELECT
77     location AS 'Country',
78     MAX(total_deaths) AS 'Total Highest Count'
79 FROM
80     portfolio_project.covid_deaths
81 GROUP BY
82     location
83 ORDER BY
84     2 DESC
85 ;
86
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	Country	Total Highest Count			
▶	Africa	259117			
	Argentina	130663			
	Belgium	34339			
	Bangladesh	29499			
	Australia	25236			
	Austria	22534			
	Azerbaijan	10353			
	Armenia	8777			
	Afghanistan	7998			
	Belarus	7118			
	Algeria	6881			
	Albania	3605			
	Angola	1937			
	Bahrain	1536			
	Bahamas	849			
	Belize	688			
	Barbados	593			
	Aruba	292			
	Benin	163			
	Andorra	159			
	Antigua an...	146			
	American S...	34			

81 13:09:00 SELECT location AS 'Country', MAX(total_deaths) AS 'Total Highest Count' FROM portfolio_project.covid_deaths GROUP BY location ORDER BY 2 DESC 24 row(s) returned 0.109 sec / 0.000 sec

10. Display death % per country (location)

```

01-SQL Data Exploration x
-- Display death % per country (location)
87 -- Display death % per country (location)
88 • SELECT
89     location AS 'Country',
90     SUM(total_cases) AS 'Total Cases',
91     SUM(total_deaths) AS 'Total Deaths',
92     (SUM(total_deaths)/SUM(total_cases))*100 AS 'Percentage'
93 FROM
94     portfolio_project.covid_deaths
95 WHERE
96     continent IS NOT NULL
97 GROUP BY
98     location
99 ORDER BY
100     4 DESC
101

```

Result Grid				
	Filter Rows:		Export:	Wrap Cell Content: IA
	Country	Total Cases	Total Deaths	Percentage
▶	Afghanistan	245988981	9482547	3.8549
	Algeria	321430718	8409268	2.6162
	Bermuda	167790	3808	2.2695
	Bahamas	41028740	928279	2.2625
	Armenia	515749237	10181877	1.9742
	Angola	114441477	2219488	1.9394
	Antigua and Barbuda	8957640	154832	1.7285
	Bangladesh	2354357374	35158810	1.4934
	Argentina	10812079692	161350498	1.4923
	Azerbaijan	918519664	11514202	1.2536
	Albania	355635062	4320183	1.2148
	Belize	70481110	790792	1.1220
	Belgium	4751573368	43290916	0.9111
	Belarus	1100835696	7985375	0.7254
	Aruba	44492474	295867	0.6650
	Benin	31175131	202043	0.6481
	Barbados	94625816	535680	0.5661
	Austria	5308511352	25176950	0.4743
	Andorra	49036941	207828	0.4238

82 13:11:15 SELECT location AS 'Country', SUM(total_cases) AS 'Total Cases', SUM(total_deaths) AS 'Total Deaths', (SUM(total_deaths)/SUM(total_cases))*100 AS 'Percentage' 23 row(s) returned 0.109 sec / 0.000 sec

11. Calculate % likelihood of dying if contracted in certain country

```

01-SQL Data Exploration
103 -- Calculate total cases vs total deaths
104 -- % likelihood of dying if contracted in certain country
105 • SELECT
106     location AS 'Country',
107     date AS 'Date',
108     total_cases AS 'Total Cases',
109     total_deaths AS 'Total Deaths',
110     (total_deaths/total_cases)*100 AS 'Percentage'
111 FROM
112     portfolio_project.covid_deaths
113 WHERE
114     continent IS NOT NULL
115 ORDER BY
116     1,2
117 ;

```


Result Grid					
Filter Rows:					
Export: Wrap Cell Content: Fetch rows:					
	Country	Date	Total Cases	Total Deaths	Percentage
▶	Afghanistan	2020-01-05	0	0	NULL
	Afghanistan	2020-01-06	0	0	NULL
	Afghanistan	2020-01-07	0	0	NULL
	Afghanistan	2020-01-08	0	0	NULL
	Afghanistan	2020-01-09	0	0	NULL
	Afghanistan	2020-01-10	0	0	NULL
	Afghanistan	2020-01-11	0	0	NULL
	Afghanistan	2020-01-12	0	0	NULL
	Afghanistan	2020-01-13	0	0	NULL
	Afghanistan	2020-01-14	0	0	NULL
	Afghanistan	2020-01-15	0	0	NULL
	Afghanistan	2020-01-16	0	0	NULL
	Afghanistan	2020-01-17	0	0	NULL
	Afghanistan	2020-01-18	0	0	NULL
	Afghanistan	2020-01-19	0	0	NULL
	Afghanistan	2020-01-20	0	0	NULL
	Afghanistan	2020-01-21	0	0	NULL
	Afghanistan	2020-01-22	0	0	NULL
	Afghanistan	2020-01-23	0	0	NULL

83 13:13:25 SELECT location AS 'Country', date AS 'Date', total_cases AS 'Total Cases', total_deaths AS 'Total Deaths', (total_deaths/total_cases)*100 AS 'Percentage' F... 37315 row(s) returned 0.094 sec / 0.031 sec

12. Calculate % of cases versus population per subset of country

```

01-SQL Data Exploration x
-- Calculate total cases VS population
-- % of cases vs population per subset of country
121 • SELECT
122     t_death.location AS 'Country',
123     t_death.date AS 'Date',
124     t_death.population AS 'Population',
125     t_death.total_cases AS 'Total Cases',
126     t_death.total_deaths AS 'Total Deaths',
127     (t_death.total_cases/t_death.population)*100 AS 'Percentage'
128 FROM
129     portfolio_project.covid_deaths AS t_death
130 WHERE
131     t_death.location
132     LIKE
133     '%us%'
134 AND
135     t_death.continent IS NOT NULL
136 ORDER BY
137     1,2
138

```

Result Grid						
Filter Rows:						
Export: Wrap Cell Content: Fetch rows:						
	Country	Date	Population	Total Cases	Total Deaths	Percentage
▶	Australia	2020-01-05	26177410	0	0	0.0000
	Australia	2020-01-06	26177410	0	0	0.0000
	Australia	2020-01-07	26177410	0	0	0.0000
	Australia	2020-01-08	26177410	0	0	0.0000
	Australia	2020-01-09	26177410	0	0	0.0000
	Australia	2020-01-10	26177410	0	0	0.0000
	Australia	2020-01-11	26177410	0	0	0.0000
	Australia	2020-01-12	26177410	0	0	0.0000
	Australia	2020-01-13	26177410	0	0	0.0000
	Australia	2020-01-14	26177410	0	0	0.0000
	Australia	2020-01-15	26177410	0	0	0.0000
	Australia	2020-01-16	26177410	0	0	0.0000

84 13:15:28 SELECT t_death.location AS 'Country', t_death.date AS 'Date', t_death.population AS 'Population', t_death.total_cases AS 'Total Cases', t_death.total_deaths AS 'Total Deaths', (t_death.total_deaths/t_death.population)*100 AS 'Percentage' ... 5022 row(s) returned 0.063 sec / 0.000 sec

13. Calculate % of death versus population per subset of country

```

01-SQL Data Exploration x
140 -- Calculate total death VS population
141 -- % of death vs population per subset of country
142 • SELECT
143     t_death.location AS 'Country',
144     t_death.date AS 'Date',
145     t_death.population AS 'Population',
146     t_death.total_cases AS 'Total Cases',
147     t_death.total_deaths AS 'Total Deaths',
148     (t_death.total_deaths/t_death.population)*100 AS 'Percentage'
149 FROM
150     portfolio_project.covid_deaths AS t_death
151 WHERE
152     t_death.location
153     LIKE
154     '%us%'
155 AND
156     t_death.continent IS NOT NULL
157 ORDER BY
158     1,2
159

```

Result Grid						
Filter Rows:						
Export: Wrap Cell Content: Fetch rows:						
	Country	Date	Population	Total Cases	Total Deaths	Percentage
▶	Australia	2020-01-05	26177410	0	0	0.0000
	Australia	2020-01-06	26177410	0	0	0.0000
	Australia	2020-01-07	26177410	0	0	0.0000
	Australia	2020-01-08	26177410	0	0	0.0000
	Australia	2020-01-09	26177410	0	0	0.0000
	Australia	2020-01-10	26177410	0	0	0.0000
	Australia	2020-01-11	26177410	0	0	0.0000
	Australia	2020-01-12	26177410	0	0	0.0000
	Australia	2020-01-13	26177410	0	0	0.0000
	Australia	2020-01-14	26177410	0	0	0.0000
	Australia	2020-01-15	26177410	0	0	0.0000
	Australia	2020-01-16	26177410	0	0	0.0000

85 13:17:03 SELECT t_death.location AS 'Country', t_death.date AS 'Date', t_death.population AS 'Population', t_death.total_cases AS 'Total Cases', t_death.total_deaths AS 'Total Deaths', (t_death.total_deaths/t_death.population)*100 AS 'Percentage' ... 5022 row(s) returned 0.062 sec / 0.000 sec

14. Calculate country with highest % infection rate compared to its population

01-SQL Data Exploration

```
161 -- Calculate country with highest % infection rate compared to its population
162 • SELECT
163     t_death.location AS 'Country',
164     t_death.population AS 'Population',
165     MAX(t_death.total_cases) AS 'Highest Infected Count',
166     MAX((t_death.total_cases/t_death.population))*100 AS 'Percentage'
167 FROM
168     portfolio_project.covid_deaths AS t_death
169 WHERE
170     t_death.continent IS NOT NULL
171 GROUP BY
172     t_death.location,
173     t_death.population
174 ORDER BY
175     Percentage DESC
176 ;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	Country	Population	Highest Infected Count	Percentage
▶	Austria	8939617	6082444	68.0400
	Andorra	79843	48015	60.1400
	Bahrain	1472237	696614	47.3200
	Australia	26177410	11861161	45.3100
	Belgium	11655923	4872829	41.8100
	Aruba	106459	44224	41.5400
	Barbados	281646	108582	38.5500
	Anguilla	15877	3904	24.5900
	Argentina	45510324	10101218	22.2000
	American Samoa	44295	8359	18.8700
	Belize	405285	71414	17.6200
	Armenia	2780472	452273	16.2700
	Albania	2842318	335047	11.7900
	Belarus	9534956	994037	10.4300
	Antigua and Ba...	93772	9106	9.7100
	Bahamas	409989	39127	9.5400

86 13:25:04 SELECT t_death.location AS 'Country', t_death.population AS 'Population', MAX(t_death.total_cases) AS 'Highest Infected Count', MAX((t_death.total_cases/t_death.population))*100 AS 'Percentage' 23 row(s) returned 0.110 sec / 0.000 sec

15. Calculate country with highest % death rate compared to its population

```
01-SQL Data Exploration x
-- Calculate country with highest % death rate compared to its population
SELECT
  t_death.location AS 'Country',
  t_death.population AS 'Population',
  MAX(t_death.total_deaths) AS 'Highest Death Count',
  MAX((t_death.total_deaths/t_death.population))*100 AS 'Percentage'
FROM
  portfolio_project.covid_deaths AS t_death
WHERE
  t_death.continent IS NOT NULL
GROUP BY
  t_death.location,
  t_death.population
ORDER BY
  Percentage DESC
```

Country	Population	Highest Death Count	Percentage
Armenia	2780472	8777	0.3200
Argentina	45510324	130663	0.2900
Belgium	11655923	34339	0.2900
Aruba	106459	292	0.2700
Austria	8939617	22534	0.2500
Bahamas	409989	849	0.2100
Barbados	281646	593	0.2100
Andorra	79843	159	0.2000
Belize	405285	688	0.1700
Antigua and Barbuda	93772	146	0.1600
Albania	2842318	3605	0.1300
Australia	26177410	25236	0.1000
Azerbaijan	10358078	10353	0.1000
Bahrain	1472237	1536	0.1000
American Samoa	44295	34	0.0800
Anguilla	15877	12	0.0800
Belarus	9534956	7118	0.0700

87 13:27:00 SELECT t_death.location AS 'Country', t_death.population AS 'Population', MAX(t_death.total_deaths) AS 'Highest Death Count', MAX((t_death.total_deaths/t_death... 23 row(s) returned 0.140 sec / 0.000 sec

16. Total population versus vaccinations

```
01-SQL Data Exploration
195  -- =====
196  -- *****JOIN Statements*****
197  -- =====
198
199  -- Total population vs vaccinations
200  • SELECT
201      t_death.continent AS 'Continent',
202      t_death.location AS 'Location',
203      t_death.date AS 'Date',
204      t_death.population AS 'Population',
205      t_vacc.new_vaccinations AS 'New Vaccination'
206  FROM
207      portfolio_project.covid_deaths AS t_death
208  JOIN
209      portfolio_project.covid_vaccinations AS t_vacc
210  ON
211      t_death.location = t_vacc.location
212  AND
213      t_death.date = t_vacc.date
214  WHERE
215      t_death.continent IS NOT NULL
216  AND
217      t_vacc.new_vaccinations IS NOT NULL
218  ORDER BY
219      2,3
220
221
```

Result Grid					
Filter Rows:		Export:		Wrap Cell Content: Fetch rows:	
	Continent	Location	Date	Population	New Vaccination
▶	Asia	Afghanistan	2021-05-27	41128772	2859
	Asia	Afghanistan	2021-06-03	41128772	4015
	Asia	Afghanistan	2022-01-27	41128772	6868
	Asia	Afghanistan	2022-04-27	41128772	383
	Asia	Afghanistan	2022-09-12	41128772	9447
	Asia	Afghanistan	2022-11-02	41128772	36587
	Asia	Afghanistan	2022-11-16	41128772	14800
	Asia	Afghanistan	2023-04-25	41128772	3316
	Europe	Albania	2021-01-13	2842318	60
	Europe	Albania	2021-01-14	2842318	78
	Europe	Albania	2021-01-15	2842318	42
	Europe	Albania	2021-01-16	2842318	61
	Europe	Albania	2021-01-17	2842318	36
	Europe	Albania	2021-01-18	2842318	42
	Europe	Albania	2021-01-19	2842318	36
	Europe	Albania	2021-01-20	2842318	36
	Europe	Albania	2021-01-21	2842318	30
	Europe	Albania	2021-02-18	2842318	1348
	Europe	Albania	2021-02-19	2842318	1128
	Europe	Albania	2021-03-23	2842318	3461
	Europe	Albania	2021-03-24	2842318	2302
	Europe	Albania	2021-03-25	2842318	5356
	Europe	Albania	2021-03-26	2842318	2900
	Europe	Albania	2021-03-27	2842318	1827
	Europe	Albania	2021-03-28	2842318	13925

88 13:29:05 SELECT t_death.continent AS 'Continent', t_death.location AS 'Location', t_death.date AS 'Date', t_death.population AS 'Population', t_vacc.new_vaccinations ... 5152 row(s) returned 0.640 sec / 0.016 sec

17. Total population versus vaccinations with rolling vaccination numbers by country

```

222 -- =====
223 -- *****Windows Function*****
224 -- =====
225
226 -- Total population vs vaccinations with rolling vaccination numbers by country
227 • SELECT
228     t_death.continent AS 'Continent',
229     t_death.location AS 'Location',
230     t_death.date AS 'Date',
231     t_death.population AS 'Population',
232     t_vacc.new_vaccinations AS 'New Vaccination',
233     SUM(t_vacc.new_vaccinations)
234     OVER(PARTITION BY t_death.location ORDER BY t_death.location, t_death.date) AS 'Rolling Vacc. Numbers'
235 FROM
236     portfolio_project.covid_deaths AS t_death
237 JOIN
238     portfolio_project.covid_vaccinations AS t_vacc
239 ON
240     t_death.location = t_vacc.location
241 AND
242     t_death.date = t_vacc.date
243 WHERE
244     t_death.continent IS NOT NULL
245 ORDER BY
246     2,3
247

```

Result Grid						
Filter Rows:						
Export: Wrap Cell Content: Fetch rows:						
	Continent	Location	Date	Population	New Vaccination	Rolling Vacc. Numbers
▶	Asia	Afghanistan	2020-01-05	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-06	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-07	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-08	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-09	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-10	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-11	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-12	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-13	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-14	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-15	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-16	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-17	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-18	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-19	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-20	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-21	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-22	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-23	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-24	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-25	41128772	NULL	NULL
	Asia	Afghanistan	2020-01-26	41128772	NULL	NULL

89 13:31:09 SELECT t_death.continent AS 'Continent', t_death.location AS 'Location', t_death.date AS 'Date', t_death.population AS 'Population', t_vacc.new_vaccinations ... 37315 row(s) returned 1.031 sec / 0.031 sec

18. Calculate % of people vaccinated by country (using CTE)

```
01-SQL Data Exploration
-- % of people vaccinated by country (using CTE)

249
250
251 With pop_vs_vacc (
252     continent,
253     location,
254     date,
255     population,
256     new_vaccinations,
257     Rolling_Vacc_Numbers
258 )
259 AS
260 (
261     SELECT
262         t_death.continent AS 'Continent',
263         t_death.location AS 'Location',
264         t_death.date AS 'Date',
265         t_death.population AS 'Population',
266         t_vacc.new_vaccinations AS 'New Vaccination',
267         SUM(t_vacc.new_vaccinations)
268             OVER(PARTITION BY t_death.location ORDER BY t_death.location, t_death.date) AS Rolling_Vacc_Numbers
269     FROM
270         portfolio_project.covid_deaths AS t_death
271     JOIN
272         portfolio_project.covid_vaccinations AS t_vacc
273     ON
274         t_death.location = t_vacc.location
275     AND
276         t_death.date = t_vacc.date
277     WHERE
278         t_death.continent IS NOT NULL
279 )
280 Select
281     *,
282     (Rolling_Vacc_Numbers/population)*100 AS '% of people vaccinated'
283 FROM
284     pop_vs_vacc
285 -- WHERE
286 -- new_vaccinations IS NOT NULL
287 -- AND
288 -- location = 'Afghanistan'
289
290
```

Result Grid							
Filter Rows:							
Export: Wrap Cell Content: Fetch rows:							
	continent	location	date	population	new_vaccinations	Rolling_Vacc_Numbers	% of people vaccinated
	Europe	Belgium	2021-01-10	11655923	491	28065	0.24077887268129688
	Europe	Belgium	2021-01-11	11655923	5730	33795	0.28993842872846703
	Europe	Belgium	2021-01-12	11655923	16078	49873	0.4278768828517484
	Europe	Belgium	2021-01-13	11655923	21830	71703	0.6151636382635678
	Europe	Belgium	2021-01-14	11655923	23564	95267	0.8173269504268345
	Europe	Belgium	2021-01-15	11655923	23700	118967	1.0206570513549207
	Europe	Belgium	2021-01-16	11655923	5242	124209	1.0656298947753857
	Europe	Belgium	2021-01-17	11655923	3301	127510	1.0939502603097155
	Europe	Belgium	2021-01-18	11655923	11294	138804	1.190845203764644
	Europe	Belgium	2021-01-19	11655923	19470	158274	1.3578847423751856
	Europe	Belgium	2021-01-20	11655923	21750	180024	1.5444851514547582
	Europe	Belgium	2021-01-21	11655923	30409	210433	1.8053739716708834
	Europe	Belgium	2021-01-22	11655923	30212	240645	2.0645726640438515
	Europe	Belgium	2021-01-23	11655923	8529	249174	2.137745762390503
	Europe	Belgium	2021-01-24	11655923	1950	251124	2.1544754542390168
	Europe	Belgium	2021-01-25	11655923	11459	262583	2.252785987004204
	Europe	Belgium	2021-01-26	11655923	12986	275569	2.36419715538615
	Europe	Belgium	2021-01-27	11655923	16838	292407	2.5086558996657753
	Europe	Belgium	2021-01-28	11655923	24043	316450	2.7149287104933686
	Europe	Belgium	2021-01-29	11655923	21799	338249	2.9019495067014427
	Europe	Belgium	2021-01-30	11655923	4573	342822	2.941182778918495
	Europe	Belgium	2021-01-31	11655923	1005	343827	2.949805004717344
	Europe	Belgium	2021-02-01	11655923	8006	351833	3.0184911139169333
	Europe	Belgium	2021-02-02	11655923	24797	376630	3.2312327389259523
	Europe	Belgium	2021-02-03	11655923	31151	407781	3.498487421373665
	Europe	Belgium	2021-02-04	11655923	34612	442393	3.795435162020202

91 13:37:01 With pop_vs_vacc (continent, location, date, population, new_vaccinations, Rolling_Vacc_Numbers) AS (SELECT t_de... 37315 row(s) return... 0.813 sec / 0.062 sec

19. Calculate % of people vaccinated by country (using TEMP TABLE)

```

01-SQL Data Exploration
-- % of people vaccinated by country (using TEMP TABLE)
DROP TABLE IF EXISTS tempTB_percent_pop_vacc;
CREATE TABLE tempTB_percent_pop_vacc (
  continent VARCHAR(255),
  location VARCHAR(255),
  date DATE,
  population INT,
  new_vaccinations VARCHAR(255),
  rolling_Vacc_Numbers INT
)
INSERT INTO
tempTB_percent_pop_vacc
SELECT
  t_death.continent AS 'Continent',
  t_death.location AS 'Location',
  t_death.date AS 'Date',
  t_death.population AS 'Population',
  t_vacc.new_vaccinations AS 'New Vaccination',
  SUM(t_vacc.new_vaccinations)
  OVER(PARTITION BY t_death.location ORDER BY t_death.location, t_death.date) AS Rolling_Vacc_Numbers
FROM
  portfolio_project.covid_deaths AS t_death
  JOIN
    portfolio_project.covid_vaccinations AS t_vacc
ON
  t_death.location = t_vacc.location
  AND
    t_death.date = t_vacc.date
WHERE
  t_death.continent IS NOT NULL

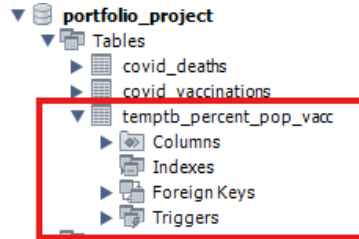
```



```

327 • Select
328     *,
329     (Rolling_Vacc_Numbers/population)*100 AS '% of people vaccinated'
330 FROM
331     tempTB_percent_pop_vacc
332 -- WHERE
333 -- new_vaccinations IS NOT NULL
334 -- AND
335 -- location = 'Afghanistan'
336

```

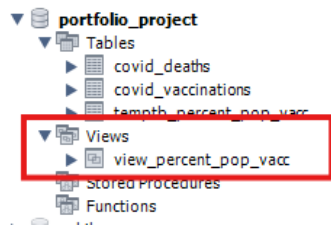


Result Grid							
Filter Rows: Export: Wrap Cell Content: Fetch rows:							
	continent	location	date	population	new_vaccinations	rolling_Vacc_Numbers	% of people vaccinated
	Asia	Bangladesh	2021-02-09	171186368	NULL	567	0.0003
	Asia	Bangladesh	2021-02-10	171186368	158451	159018	0.0929
	Asia	Bangladesh	2021-02-11	171186368	NULL	159018	0.0929
	Asia	Bangladesh	2021-02-12	171186368	NULL	159018	0.0929
	Asia	Bangladesh	2021-02-13	171186368	NULL	159018	0.0929
	Asia	Bangladesh	2021-02-14	171186368	169353	328371	0.1918
	Asia	Bangladesh	2021-02-15	171186368	226678	555049	0.3242
	Asia	Bangladesh	2021-02-16	171186368	226902	781951	0.4568
	Asia	Bangladesh	2021-02-17	171186368	226755	1008706	0.5892
	Asia	Bangladesh	2021-02-18	171186368	261945	1270651	0.7423
	Asia	Bangladesh	2021-02-19	171186368	NULL	1270651	0.7423
	Asia	Bangladesh	2021-02-20	171186368	NULL	1270651	0.7423
	Asia	Bangladesh	2021-02-21	171186368	NULL	1270651	0.7423
	Asia	Bangladesh	2021-02-22	171186368	NULL	1270651	0.7423
	Asia	Bangladesh	2021-02-23	171186368	182896	1453547	0.8491
	Asia	Bangladesh	2021-02-24	171186368	181985	1635532	0.9554
	Asia	Bangladesh	2021-02-25	171186368	177902	1813434	1.0593
	Asia	Bangladesh	2021-02-26	171186368	NULL	1813434	1.0593
	Asia	Bangladesh	2021-02-27	171186368	NULL	1813434	1.0593
	Asia	Bangladesh	2021-02-28	171186368	125752	1939186	1.1328
	Asia	Bangladesh	2021-03-01	171186368	NULL	1939186	1.1328
	Asia	Bangladesh	2021-03-02	171186368	NULL	1939186	1.1328
	Asia	Bangladesh	2021-03-03	171186368	NULL	1939186	1.1328
	Asia	Bangladesh	2021-03-04	171186368	NULL	1939186	1.1328

95 13:39:45 Select *, (Rolling_Vacc_Numbers/population)*100 AS '% of people vaccinated' FROM tempTB_percent_pop_vacc -- WHERE -- new... 37315 row(s) return... 0.000 sec / 0.047 sec

20. Create View table

```
338 -- =====
339 -- *****CREATE VIEW*****
340 -- =====
341 • DROP VIEW IF EXISTS view_percent_pop_vacc;
342
343 • CREATE VIEW view_percent_pop_vacc AS
344 SELECT
345     t_death.continent AS 'Continent',
346     t_death.location AS 'Location',
347     t_death.date AS 'Date',
348     t_death.population AS 'Population',
349     t_vacc.new_vaccinations AS 'New Vaccination',
350     SUM(t_vacc.new_vaccinations)
351     OVER(PARTITION BY t_death.location ORDER BY t_death.location, t_death.date) AS 'Rolling Vacc. Numbers'
352 FROM
353     portfolio_project.covid_deaths AS t_death
354 JOIN
355     portfolio_project.covid_vaccinations AS t_vacc
356 ON
357     t_death.location = t_vacc.location
358 AND
359     t_death.date = t_vacc.date
360 WHERE
361     t_death.continent IS NOT NULL
362 ORDER BY
363     2,3
364 ;
365
366 • SELECT
367     *
368 FROM
369     view_percent_pop_vacc
370 ;
371
```



Result Grid						
Filter Rows:		Export:		Wrap Cell Content:		Fetch rows:
Continent	Location	Date	Population	New Vaccination	Rolling Vacc. Numbers	
North America	Barbados	2022-03-14	281646	NULL	287574	
North America	Barbados	2022-03-15	281646	84	287658	
North America	Barbados	2022-03-16	281646	87	287745	
North America	Barbados	2022-03-17	281646	80	287825	
North America	Barbados	2022-03-18	281646	84	287909	
North America	Barbados	2022-03-19	281646	30	287939	
North America	Barbados	2022-03-20	281646	27	287966	
North America	Barbados	2022-03-21	281646	26	287992	
North America	Barbados	2022-03-22	281646	67	288059	
North America	Barbados	2022-03-23	281646	82	288141	
North America	Barbados	2022-03-24	281646	49	288190	
North America	Barbados	2022-03-25	281646	90	288280	
North America	Barbados	2022-03-26	281646	255	288535	
North America	Barbados	2022-03-27	281646	43	288578	
North America	Barbados	2022-03-28	281646	51	288629	
North America	Barbados	2022-03-29	281646	41	288670	
North America	Barbados	2022-03-30	281646	67	288737	
North America	Barbados	2022-03-31	281646	NULL	288737	
North America	Barbados	2022-04-01	281646	NULL	288737	
North America	Barbados	2022-04-02	281646	NULL	288737	
North America	Barbados	2022-04-03	281646	28	288765	
North America	Barbados	2022-04-04	281646	62	288827	
North America	Barbados	2022-04-05	281646	28	288855	
North America	Barbados	2022-04-06	281646	74	288929	

98 13:43:20 SELECT * FROM view_percent_pop_vacc
37315 row(s) return... 1.157 sec / 0.031 sec

*****END*****