InfoCOVID_instruction

- Team 7: (Manasa Acharya, Jia Jin Koh, Cheick Konta)

Project info:

This JAVA SWING application was created using GUI on IntelliJ. It is designed for clients who want to understand or get information about the impact of COVID19 on our society. Additionally, the application will analyze data and display findings in an easy to read format to support decision making. With this beta version, clients will be able to determine which area has the highest infection rate and prevent outbreaks from becoming epidemics that align with their field of expertise. Later, they can use this convenient database to build more sophisticated data models and predictors.

Database:

InfoCOVID uses publicly available data about COVID19 to analyze and extract information on virus status for decision making purposes. The data was downloaded on Johns Hopkins Coronavirus Resource Center website and imported to MySQL workbench through: Server – Data Import – Import from – Start Import (for database backup/ reviewing purposes). However, You will need password and username information to connect to the infoCOVID App. The login information will be provided below:

Download and Unzip:

1. Download the MILESTONE3_team7 zip file and unzip it in a folder on your PC.
2. There should be QueryRunner.zip, InfoCOVIDDUMP.sql, ER Model.mwb, InfoCOVID.ppt and this instruction.

Source code review:

o Code folder can be imported as a project into IntelliJ. A slight modification may be needed for the code to run in other IDEs.

o After the project is imported make sure to build it correctly and all the files below are present in the project folders.

- QueryData
- QueryFrame (GUI frame)
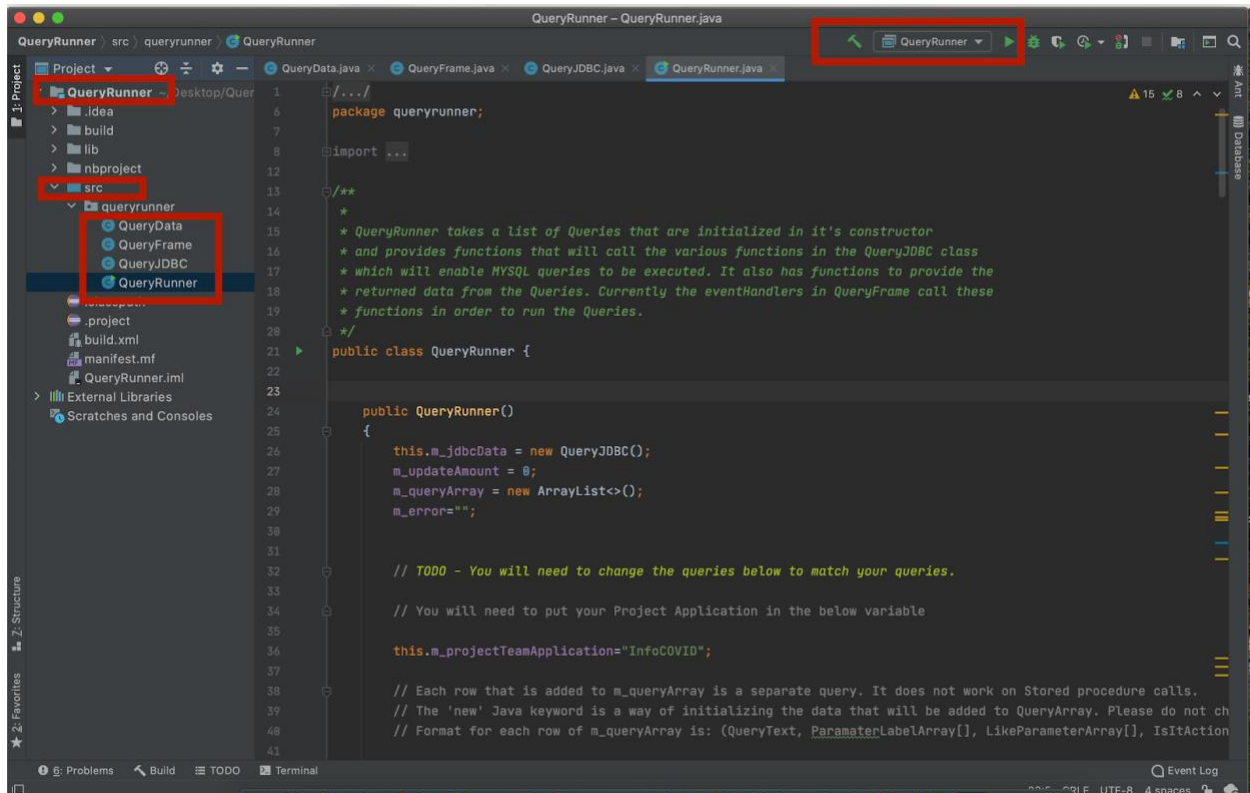- QueryJDBC (Connection)
- QueryRunner (Driver)

Application:
Running application:
- **Option 1:**
  - Open Intellij and click on "Open or import"
  -

  - Find the project folder on your local machine and click on open

- **Option 2:**
  - Note: the same operation on open the program can also be done using the command line.
    - Open terminal (or cmd for Windows)
    - Navigate to the directory where the application is located.
    - Type: "javac InfoCOVID.java" and then press enter to compile.
    - To run the program: Type: "java InfoCOVID" and then press enter.

After successfully running/opening the program. You will see the application like the image below:

Start program:

After successfully running the program you will have the option to choose between console and GUI view.

- Run program by clicking were the red triangle is
- Type either C OR G below the red rectangle for different views:
  - C for console view
  - G for GUI view to launch the application
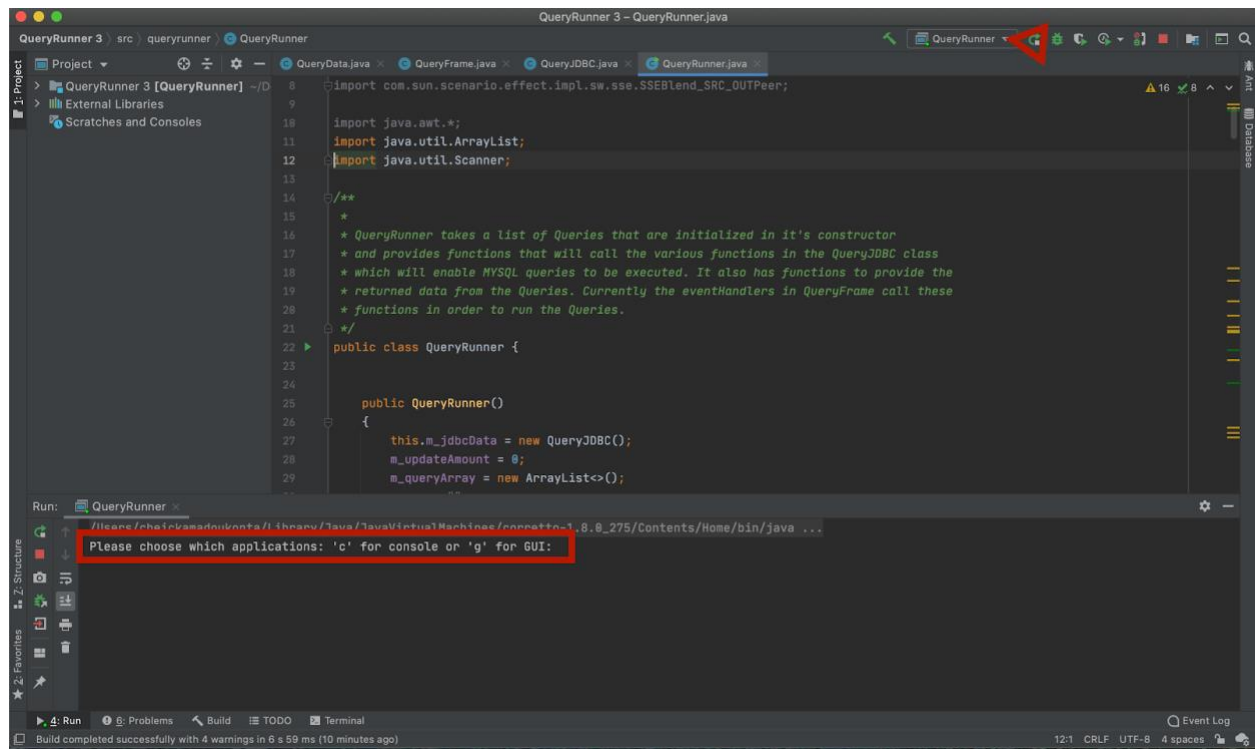
- **Instruction in case you type: g for GUI view**

Connect to the database(login):

the following information is needed to connect to the database.

- Hostname: cs100
- Username: mm_cpsc502101team07
- Password: mm_cpsc502101team07Pass-
- Database name:mm_cpsc502101team07
- Click on "Connect" Button to login to the program

InfoCOVID

Hostname	cs100
User	sc502101team07
Password	••••••••••••••
Database	sc502101team07

SELECT PATIENT_ID, COVID_SEVERITY FROM PATIENTS
WHERE COVID_SEVERITY = "SEVERE"

Connect   Query 1   Run Query

Output

First Panel: You can run any query on this panel and the information will be displayed in an easy to read format.

- **1 Query Running:**
  - First query will return the number of patients who have severe Covid19 symptoms. This will allow us to identify what factors will lead to a severe case of COVID19.
    - TO DISPLAY THIS INFO:
      - Select "query 1" from the drop-down menu
      - Then click on "Run Query"
      - Finding will be display below

2 Query Running
- o The second query will return the number of patients who have severe Covid19 symptoms with health issues. This query will help us determine what underlying health issues may lead to severe COVID19 symptoms. Therefore, we can determine who is more vulnerable for COVID19.
  - ▪ TO DISPLAY THIS INFO:
    - ▪ Select "query 2" from the drop-down menu
    - ▪ Then click on "Run Query"
    - ▪ Finding will be display below

InfoCOVID

Hostname	cs100
User	sc502101team07
Password	••••••••••••••
Database	sc502101team07

SELECT PATIENT_ID, COVID_SEVERITY, HEALTH_ISSUES
FROM PATIENTS WHERE HEALTH_ISSUES >= 2

Disconnect   Query 2   Run Query   Output

PATIENT_ID	COVID_SEVERITY	HEALTH_ISSUES
1	SEVERE	2
5	SEVERE	2
6	SEVERE	2
7	SEVERE	2
11	SEVERE	2
13	SEVERE	2
14	SEVERE	3
15	SEVERE	3
19	SEVERE	3
23	SEVERE	3
24	SEVERE	2
25	SEVERE	3
28	SEVERE	3
31	SEVERE	3

3 Query Running
- o The third query will return states in America that have more than 20,000 deaths.
  This will help us determine which state is suffering more from COVID19
    - ▪ TO DISPLAY THIS INFO:
        - ▪ Select "query 3" from the drop-down menu
        - ▪ Then click on "Run Query"
        - ▪ Finding will be display below

InfoCOVID

Hostname	cs100
User	sc502101team07
Password	••••••••••••••
Database	sc502101team07

SELECT STATE_NAME, DEATH_NO FROM STATES WHERE DEATH_NO > 20000

Disconnect   Query 3   Run Query   Output

STATE_NAME	DEATH_NO
IN	20082
WV	20217
KS	20361
RI	20832
MO	21259
PA	21793
SD	21836
ID	21927
VT	22232
MA	22543
AL	22899
NJ	23062
GA	23295
WI	23463

4 Query Running
- o The fourth query will return states that have more than 100,000 cases.This query will help us allocate our resources more efficiently in combating COVID19.
  - ▪ TO DISPLAY THIS INFO:
    - ▪ Select "query 4" from the drop-down menu
    - ▪ Then click on "Run Query"
    - ▪ Finding will be display below

InfoCOVID

Hostname	cs100
User	sc502101team07
Password	••••••••••••••
Database	sc502101team07

SELECT STATE_NAME, CASE_NO FROM STATES WHERE CASE_NO > 100000

Disconnect   Query 4   Run Query   Output

STATE_NAME	CASE_NO
OK	107299
IA	107335
MS	110006
MN	122812
MD	135657
MA	143660
IN	147582
MO	158955
MI	161105
SC	163990
VA	165676
WI	166186
AL	172626
LA	175781

5 Query Running
- o The fifth query will return the states with the highest death rate. This will help us determine which state is being impacted the most by COVID19
  - ▪ TO DISPLAY THIS INFO:
    - ▪ Select "query 5" from the drop-down menu
    - ▪ Then click on "Run Query"
    - ▪ Finding will be display below

InfoCOVID

Hostname	cs100
User	sc502101team07
Password	••••••••••••••
Database	sc502101team07

SELECT STATE_NAME, DEATH_NO FROM STATES ORDER BY DEATH_NO DESC

Disconnect   Query 5   Run Query   Output

STATE_NAME	DEATH_NO
IA	34050
MN	33658
MI	33587
HI	33004
OK	32969
UT	31533
OH	31038
MD	29640
OR	29211
AZ	29172
SC	28919
NY	28680
NV	28398
AR	28004

6 Query Running

- o The panel will display the number of patients with mild symptoms. This will help determine the number of patients with mild symptoms. Patients with mild symptoms can be studied to identify who is more likely to not suffer or die from COVID19.
  - ▪ TO DISPLAY THIS INFO:
    - ▪ Select "query 6" from the drop-down menu
    - ▪ Then click on "Run Query"
    - ▪ Finding will be display below

InfoCOVID

Hostname	cs100
User	sc502101team07
Password	••••••••••••••
Database	sc502101team07

SELECT COVID_SEVERITY, count(*) FROM PATIENTS WHERE COVID_SEVERITY = "MILD"

Disconnect   Query 6   Run Query

Output

COVID_SEVERITY	count(*)
MILD	9

7 Query Running

o   This query will return the states with the least number of cases. This query will help us determine which state is managing the COVID19 outbreak efficiently. Therefore, we can copy their strategy to help state with the high infection number.

▪   TO DISPLAY THIS INFO:
▪   Select "query 7" from the drop-down menu
▪   Then click on "Run Query"
▪   Finding will be display below

InfoCOVID

Hostname	cs100
User	sc502101team07
Password	••••••••••••
Database	sc502101team07

SELECT STATES.STATE_NAME, CASES.CASE_NO FROM STATES, CASES WHERE STATES.CASE_NO = CASES.CASE_NO ORDER BY CASES.CASE_NO

Disconnect   Query 7   Run Query   Output

STATE_NAME	CASE_NO
VT	1937
ME	5937
WY	9025
NH	9625
AK	10980
HI	14031
DC	16370
WV	20081
MT	22821
DE	23093
RI	27691
ND	31978
SD	33269
NM	36788

8 Query Running

- o This query will return the race with the most high severity. This query will help us identify which race has the highest number of COVID19 infections. Therefore, we can protect them better.
  - TO DISPLAY THIS INFO:
    - Select "query 8" from the drop-down menu
    - Then click on "Run Query"
    - Finding will be display below

InfoCOVID

Hostname	cs100
User	sc502101team07
Password	••••••••••••
Database	sc502101team07

SELECT STATES.STATE_NAME, CASES.CASE_NO FROM STATES, CASES WHERE STATES.CASE_NO = CASES.CASE_NO ORDER BY CASES.CASE_NO

Disconnect   Query 7 ⌄   Run Query   Output

STATE_NAME	CASE_NO
VT	1937
ME	5937
WY	9025
NH	9625
AK	10980
HI	14031
DC	16370
WV	20081
MT	22821
DE	23093
RI	27691
ND	31978
SD	33269
NM	36788

9 Query Running

- o This Query will return the number of deaths per severity (MEDIUM,MILD,SEVERE). This will allow us to determine the number of deaths per severity level.
    - ▪ TO DISPLAY THIS INFO:
        - ▪ Select "query 9" from the drop-down menu
        - ▪ Then click on "Run Query"
        - ▪ Finding will be display below

InfoCOVID

Hostname	cs100
User	sc502101team07
Password	••••••••••••••
Database	sc502101team07

SELECT COVID_SEVERITY, DEATH_NO FROM COVID_SEVERITY ORDER BY DEATH_NO DESC

Disconnect   Query 9 ◊   Run Query

Output

COVID_SEVERITY	DEATH_NO
Medium	398670
Severe	256408
Mild	155896

10 Query Running

- o This Query will return the states where most patients live. This will help control the infection rate of COVID19.
    - TO DISPLAY THIS INFO:
        - Select "query 10" from the drop-down menu
        - Then click on "Run Query"
        - Finding will be display below

Instruction on how to running application on console: The application can be run on console following the below instructions

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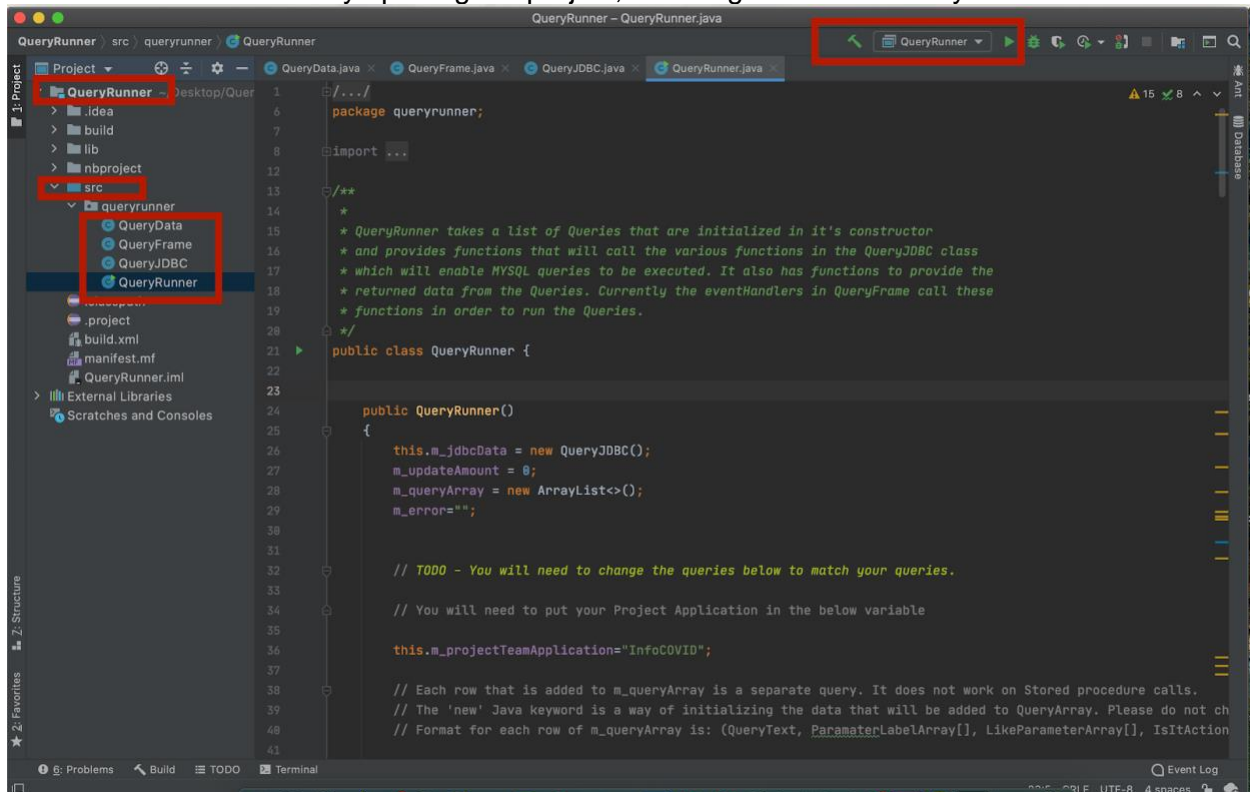 - QueryJDBC (Connection)
  - QueryRunner (Driver)

Application:
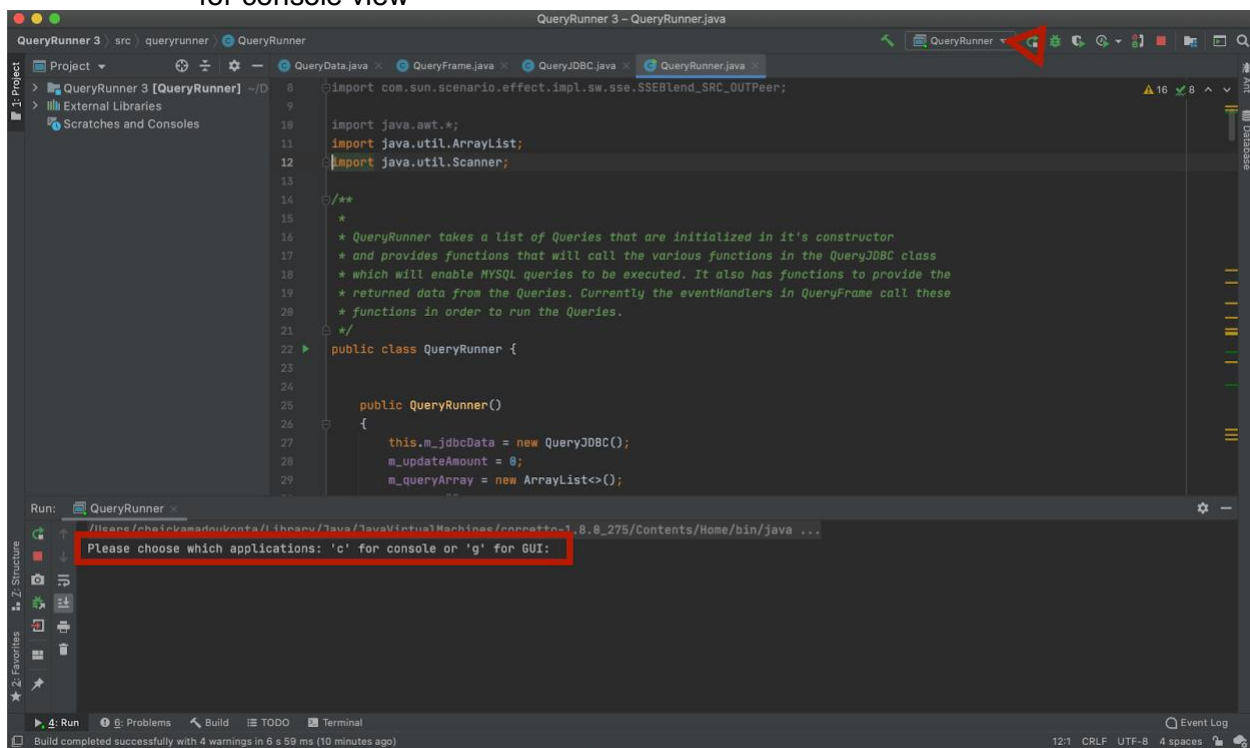**Running application:**
- **Option 1:**
  - o Open intellij and click on "Open or import"
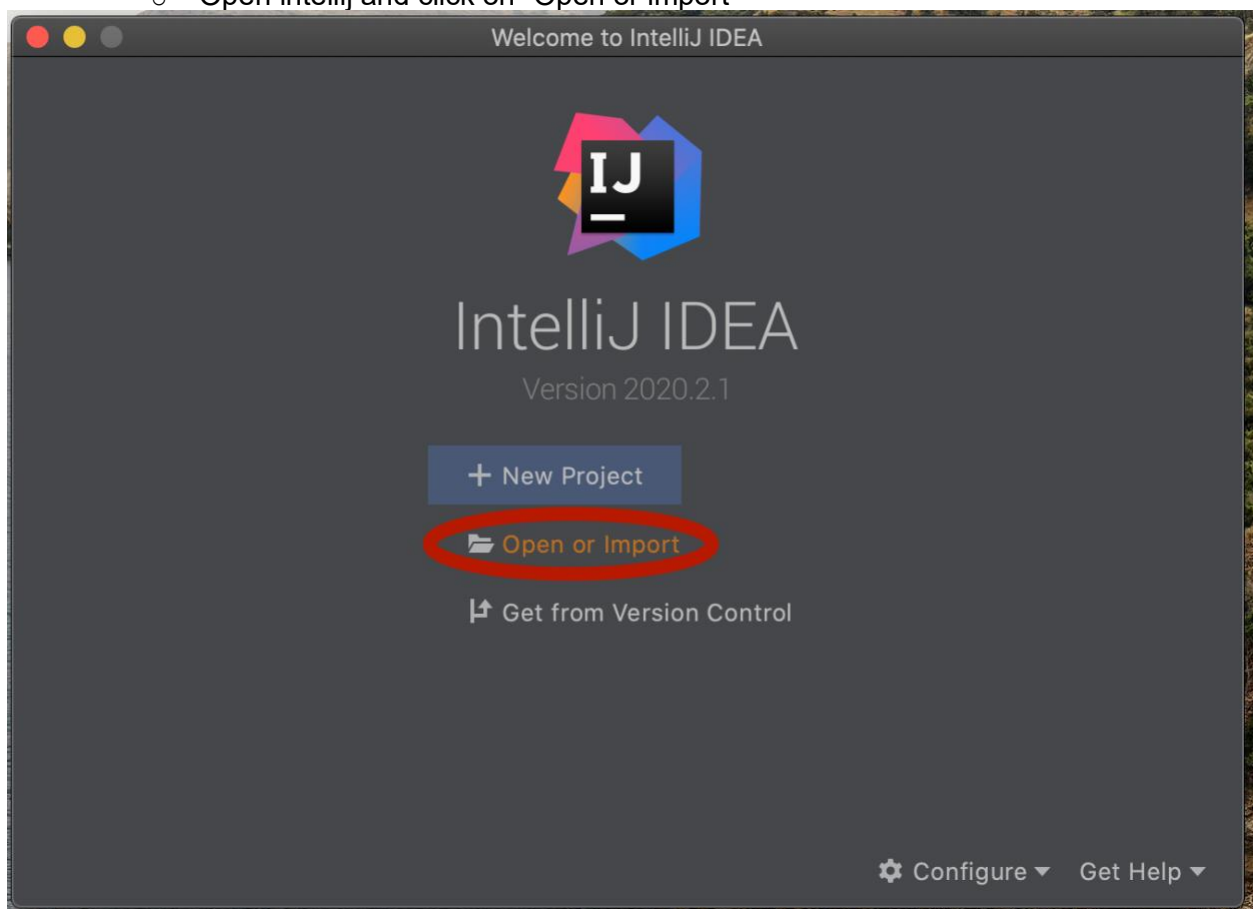
o Find the project folder on your local machine and click on open. After successfully opening the project, the image below is what you will see:

o Click on the red triangle to run the program; and type c below the red rectangle for console view

- **Instruction in case you type: c for console view:**

Now the program can be run on console. This is what it will look like on console.

```
Please enter number of queries (1 ~ 10) or -1 to exit:
1: Patients with Severe Cases
2: Severe Cases with Health Issues
3: States with >20,000deaths
4: States with > 100,000 cases
5: State with greatest deaths
6: Severity in patients
7: State with least number of cases
8: Patient severity based on race
9: Severity correlating to death
10: Patients in states
|
```

- The client can select any of the 10 queries to run on console by typing a number and enter on keyboard. For example, when client select 1 this is what they will see

```
1
```

PATIENT_ID	COVID_SEVERITY
1	SEVERE
5	SEVERE
6	SEVERE
7	SEVERE
11	SEVERE
13	SEVERE
14	SEVERE
15	SEVERE
19	SEVERE
23	SEVERE
24	SEVERE
25	SEVERE
28	SEVERE
31	SEVERE
32	SEVERE
34	SEVERE
38	SEVERE
39	SEVERE
40	SEVERE
42	SEVERE
43	SEVERE
45	SEVERE
46	SEVERE
47	SEVERE
50	SEVERE

Summary:

Building this application taught us a lot about data management. We learned how to upload data in a cloud and connect to it from MySQL Workbench. Additionally, we build queries and write scripts to extract useful information from our database. We also gained knowledge on how to access databases from a Java application.
We developed a deeper understanding on how efficiently and effectively work as a team toward accomplishing a common goal. We also helped each other to better understand the materials and developed new skills. We hope this application can help support decision making to better manage the COVID19 outbreak and save lives.