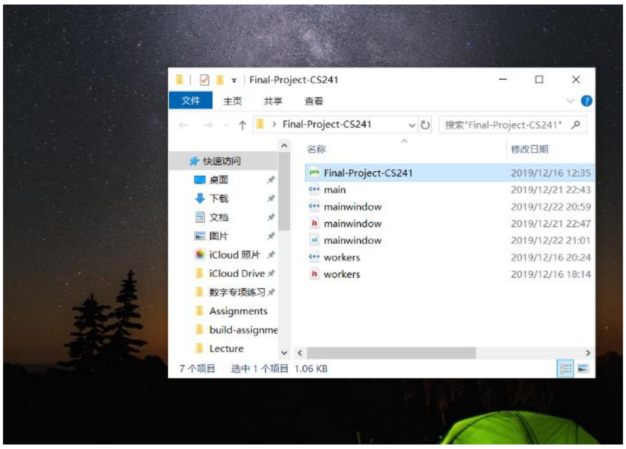
Instructions to run my code

1. Configurations and running

(1) Open the *Final-Project-CS241.pro* file in my source code package.

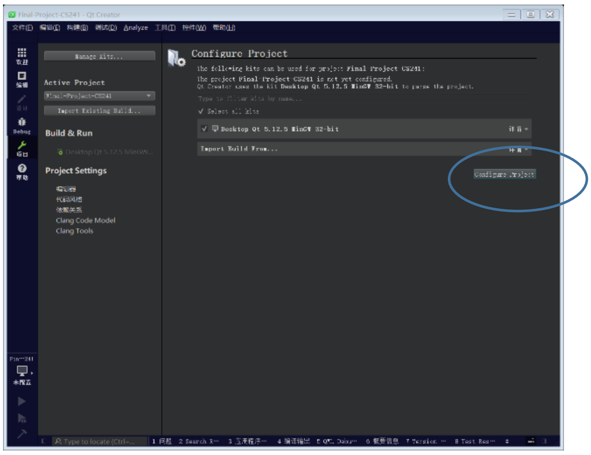
(2) Click *"Configure Project"* button in Qt Creator.

(3) Run the code



名称	修改日期
Final-Project-CS241	2019/12/16 12:35
main	2019/12/21 22:43
mainwindow	2019/12/22 20:59
mainwindow	2019/12/21 22:47
mainwindow	2019/12/22 21:01
workers	2019/12/16 20:24
workers	2019/12/16 18:14

7 个项目 选中 1 个项目 1.06 KB



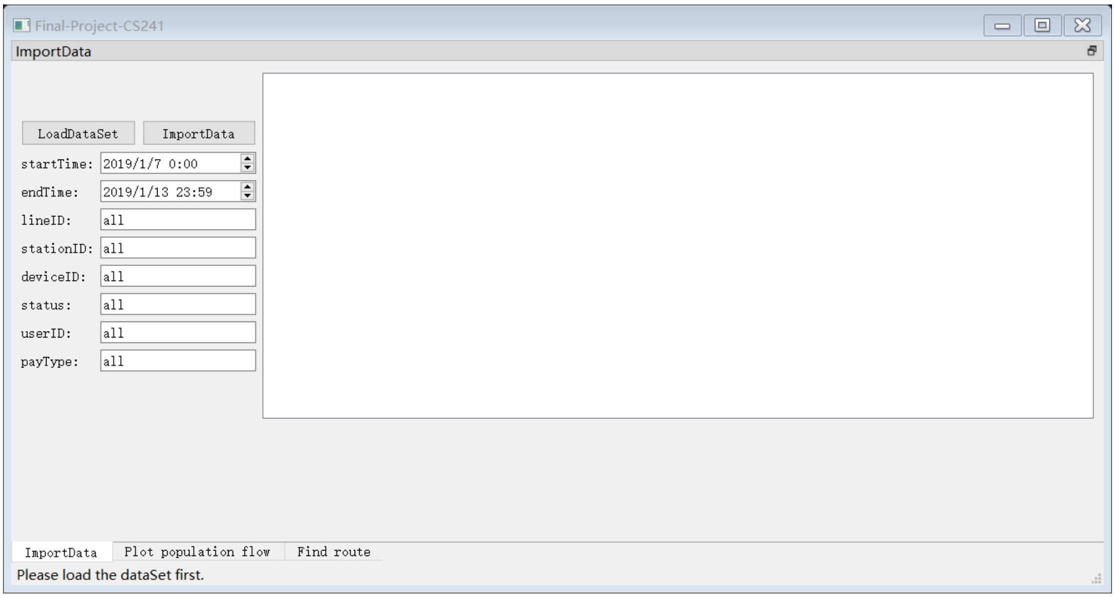
Configure Project

The following kits can be used for project Final-Project-CS241:

The project Final-Project-CS241 is not yet configured.
Qt Creator uses the kit Desktop Qt 5.12.5 MinGW 32-bit to parse the project.

✓ Select all kits

✓ Desktop Qt 5.12.5 MinGW 32-bit



startTime: 2019/1/7 0:00

endTime: 2019/1/13 23:59

lineID: all

stationID: all

deviceID: all

status: all

userID: all

payType: all

Please load the dataSet first.

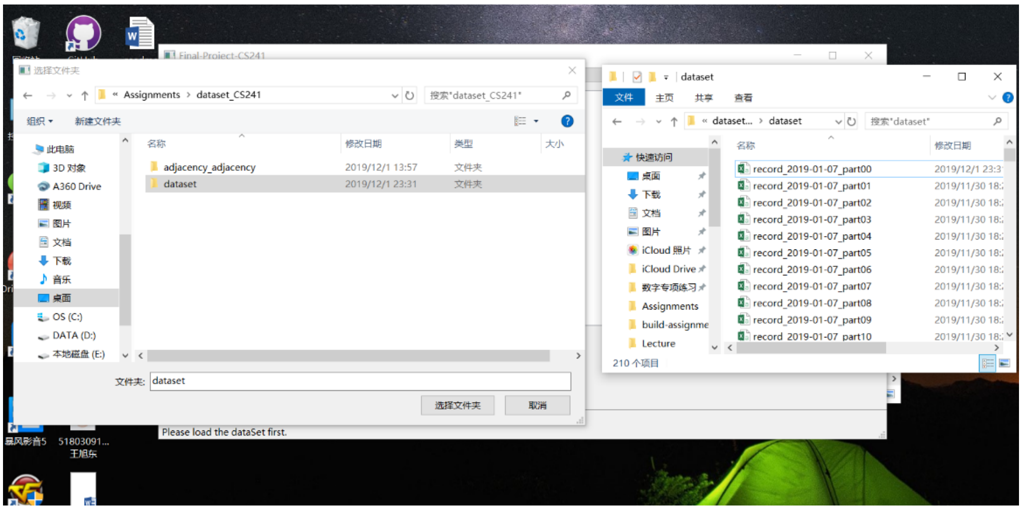
2. Load data set

(1) Case1:

If it's the first time you run the code and there not exists a *metro.db* file in the working directory:

You need to click the *"LoadDataSet"* button on the *"ImportData"* dockWidget to load all the dataset files into a database file named *metro.db*. It may take 2 or 3 minutes.

a. Choose a directory which contains all the dataset files to load.



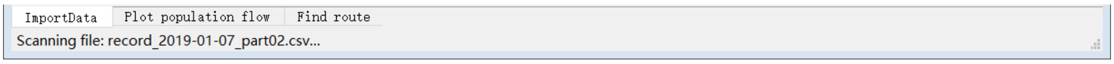
名称	修改日期	类型	大小
adjacency_adjacency	2019/12/1 13:57	文件夹	
dataset	2019/12/1 23:31	文件夹	

文件夹: dataset

名称	修改日期
record_2019-01-07_part00	2019/12/1 23:3
record_2019-01-07_part01	2019/11/30 18:
record_2019-01-07_part02	2019/11/30 18:
record_2019-01-07_part03	2019/11/30 18:
record_2019-01-07_part04	2019/11/30 18:
record_2019-01-07_part05	2019/11/30 18:
record_2019-01-07_part06	2019/11/30 18:
record_2019-01-07_part07	2019/11/30 18:
record_2019-01-07_part08	2019/11/30 18:
record_2019-01-07_part09	2019/11/30 18:
record_2019-01-07_part10	2019/11/30 18:

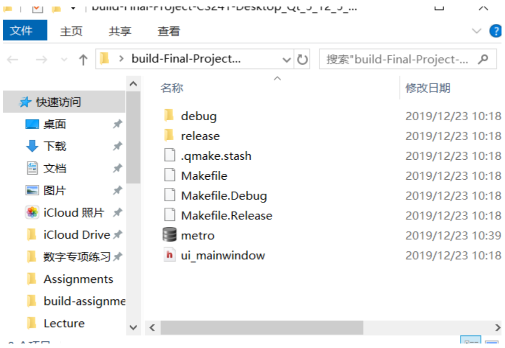
Please load the dataSet first.

b. Wait a minute and working condition will be shown in the status bar:



Scanning file: record_2019-01-07_part02.csv...

After this job, there will be a line shown on the status bar: database connected successfully. And in the work directory we can see there is a *metro.db* file:



名称	修改日期
debug	2019/12/23 10:18
release	2019/12/23 10:18
.qmake.stash	2019/12/23 10:18
Makefile	2019/12/23 10:18
Makefile.Debug	2019/12/23 10:18
Makefile.Release	2019/12/23 10:18
metro	2019/12/23 10:39
ui_mainwindow	2019/12/23 10:18

(2) Case2:

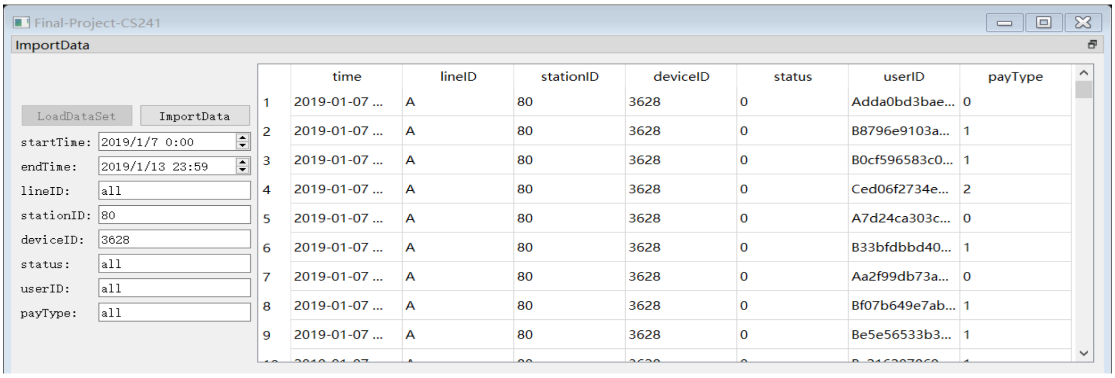
If there already exists a *metro.db* file in the working directory:

You only need to click the *"LoadDataSet"* button to connect to the database, which is very fast.

3. Import data

After connecting to the database, you can click the *"ImportData"* button to import data you are interested in.

For example, if you choose stationID=80, deviceID=3628, then the data shown on the tableview will be:



startTime: 2019/1/7 0:00

endTime: 2019/1/13 23:59

lineID: all

stationID: 80

deviceID: 3628

status: all

userID: all

payType: all

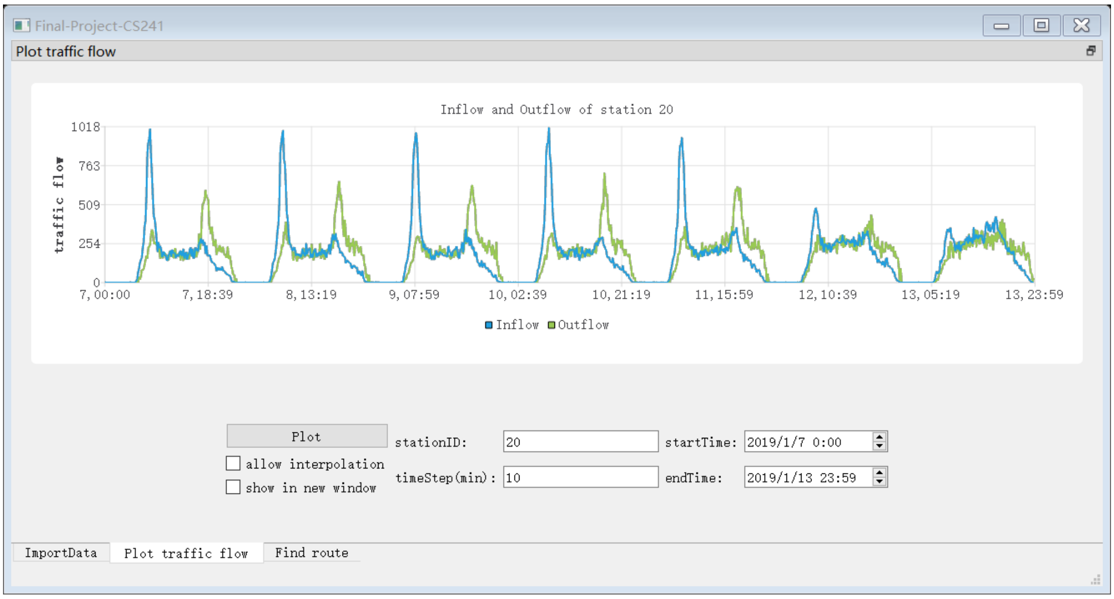
	time	lineID	stationID	deviceID	status	userID	payType
1	2019-01-07 ...	A	80	3628	0	Adda0bd3bae...	0
2	2019-01-07 ...	A	80	3628	0	B8796e9103a...	1
3	2019-01-07 ...	A	80	3628	0	B0cf596583c0...	1
4	2019-01-07 ...	A	80	3628	0	Ced06f2734e...	2
5	2019-01-07 ...	A	80	3628	0	A7d24ca303c...	0
6	2019-01-07 ...	A	80	3628	0	B33bfdbbd40...	1
7	2019-01-07 ...	A	80	3628	0	Aa2f99db73a...	0
8	2019-01-07 ...	A	80	3628	0	Bf07b649e7ab...	1
9	2019-01-07 ...	A	80	3628	0	Be5e56533b3...	1

I'd like to mention that the data to plot traffic trend are based on the imported data here. So if you choose a specific stationID to import, then you can only plot the traffic flow with that stationID, otherwise there will be a warning popping out for no suitable data provided. As a result, I advise you to leave the stationID here to be "all".

4. Plot traffic trend

First switch to the *"Plot traffic flow"* dockWidget. Then choose the start time, end time, stationID and timestep to plot the traffic flow. By default, the graph will be shown on the graphicsview widget. You can choose to show it on a new window. Also you can choose always not to implement interpolation.

The figure below is an example:



☐ allow interpolation

☐ show in new window

stationID: 20

timeStep(min): 10

startTime: 2019/1/7 0:00

endTime: 2019/1/13 23:59

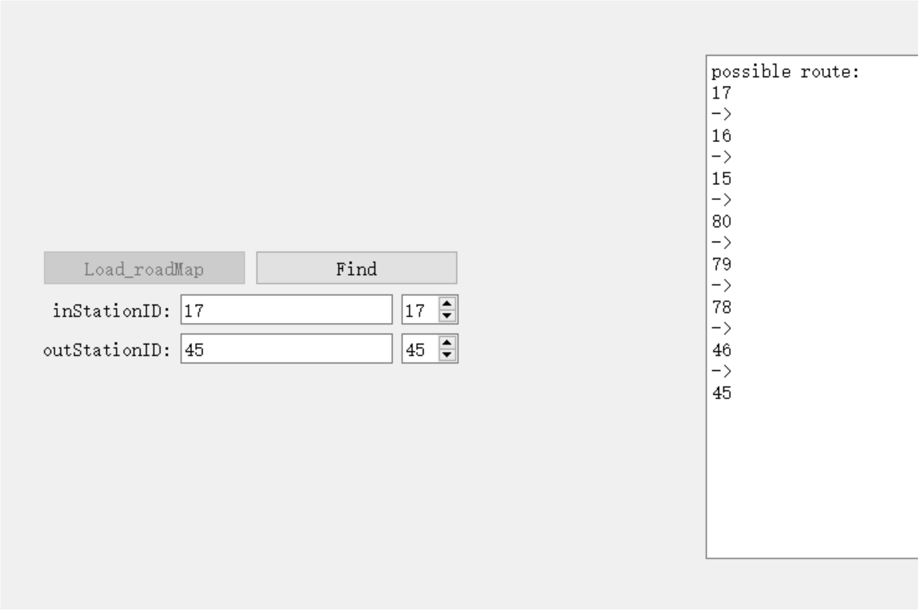
5. Find route

First switch to the *"Find route"* dockWidget, then input the inStationID and outStationID. Then you can click the *"Find"* button to find a possible route, which will be printed on the text browser.

If it the first time you run this code and there does not exist the *"Metro_roadMap.csv"* file in the working directory, you need to click the *"Load_roadMap"* button to load the roadmap: just choose the *"Metro_roadMap.csv"* file in the QFileDialog. And the program will copy the *"Metro_roadMap.csv"* file into the working directory.

If there already exists the *"Metro_roadMap.csv"* file in the working directory, the program will load the road map automatically.

The figure below is an example:



inStationID: 17 17

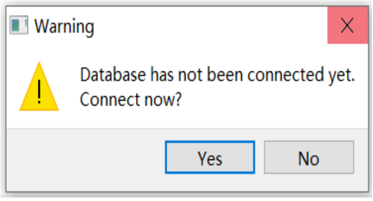
outStationID: 45 45

```
possible route:
17
->
16
->
15
->
80
->
79
->
78
->
46
->
45
```

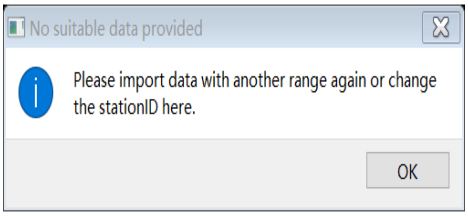
6. Others

If you did something wrong, such as plotting before connecting to the database, or importing data with stationID 10 but plotting with stationID 20, warnings will pop out. And you need to correct your behavior according to the information.

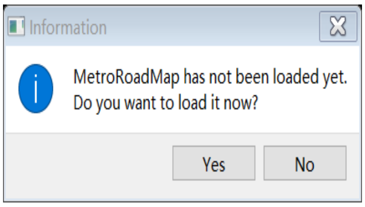
The figures below are 3 kinds of warnings:



Database has not been connected yet. Connect now?



Please import data with another range again or change the stationID here.



MetroRoadMap has not been loaded yet. Do you want to load it now?