

Description and example input and output of Task C3

Description:

The function I want to implement is data explorer.

In task C2, the program only displays a chart of rate of vaccination. The trend is always increasing because it's cumulative rate. I want to know more about it. I want to see how fast it's increasing, which is like the speed. And I also want to know the change of speed, which is like the acceleration. It can be more clear if the trend is shown in a simple way.

To solve the problem, the two main methods are:

- a) Recording the change of rate
- b) Applying linear regression on the rate or the change of rate and showing the result on the chart

It will be messy if multiple countries are selected, so I restrict the number of selected countries to 3.

Input requirement: Select start date, end date and some countries. The start date must be at least one day before the end date. The date should also be in the valid range where there are recorded data. The number of countries selected should be within 1 to 3.

Output: A chart showing the rate of vaccination of selected countries.

Example 1:

Input:

Date: Record From: 2021/7/12 Record Till: 2021/6/20

Countries: Africa, Andorra, Angola

Task Zero Table A Table B Table C Chart A Chart B Chart C Report C

Vaccination Rate Linear Regression

Record From: 2021/7/12

Record Till: 2021/6/20

Do Rate Regression

Do Change Regression

Select Countries:

- ☐ Afghanistan
- ☒ Africa
- ☐ Albania
- ☐ Algeria
- ☒ Andorra
- ☒ Angola
- ☐ Anguilla
- ☐ Antigua and Barbuda
- ☐ Argentina

Console

The end date cannot be less than the start date! [17:27:38]

Output:

A message "The end date cannot be less than the start date!" is shown in the console.

Example 2:

Input:

Date: Record From: 2021/5/4 Record Till: 2021/7/14

Countries: New Zealand, North America

Button: Do Rate Regression

Task Zero
Table A
Table B
Table C
Chart A
Chart B
Chart C
Report C

Vaccination Rate Linear Regression

Record From:

2021/5/4

Record Till:

2021/7/14

Do Rate Regression

Do Change Regression

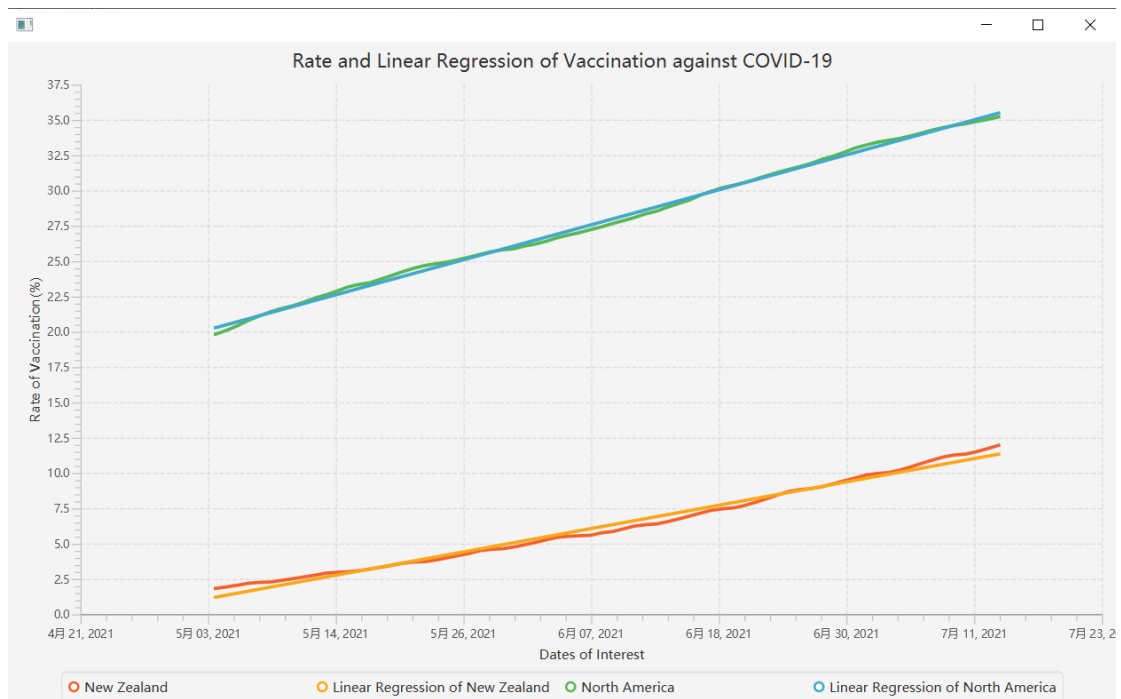
Select Countries:

☐ New Caledonia
☒ New Zealand
☐ Nicaragua
☐ Niger
☐ Nigeria
☐ Niue
☒ North America
☐ North Macedonia
☐ Northern Cyprus

Console

Display Vaccination Rate Change Linear Regression. [21:34:55]

Output:



Example 3:

Input:

Date: Record From: 2021/5/4 Record Till: 2021/7/14

Countries: New Zealand, North America

Button: Do Change Regression

The screenshot shows a web application interface with a top navigation bar containing tabs: Task Zero, Table A, Table B, Table C, Chart A, Chart B, Chart C, and Report C. The 'Report C' tab is active. The main content area is titled 'Vaccination Rate Linear Regression'. It features two date input fields: 'Record From:' with the value '2021/5/4' and 'Record Till:' with the value '2021/7/14'. Below these are two buttons: 'Do Rate Regression' and 'Do Change Regression'. To the right is a 'Select Countries:' section with a list of countries and checkboxes. The selected countries are 'New Zealand' and 'North America'. The 'Console' section at the bottom displays the message: 'Display Vaccination Rate Change Linear Regression. [21:34:55]'.

Task Zero Table A Table B Table C Chart A Chart B Chart C Report C

Vaccination Rate Linear Regression

Record From: 2021/5/4

Record Till: 2021/7/14

Do Rate Regression

Do Change Regression

Select Countries:

- ☐ New Caledonia
- ☒ New Zealand
- ☐ Nicaragua
- ☐ Niger
- ☐ Nigeria
- ☐ Niue
- ☒ North America
- ☐ North Macedonia
- ☐ Northern Cyprus

Console

Display Vaccination Rate Change Linear Regression. [21:34:55]

Output:

