## Model fitting and predicting using linear prediction

Model starts predicting from 2021-06-0 in periods of 1 week, 1 month, 3 months.

Here is an example: the number of new cases ends up over 10 million a day.

Chart, line chart

Description automatically generated

The results have to be manually chosen. The range of polynomial I have selected is from (5,12).

## Testing result:

### Global: it predicts the pandemic will die down in mid-August.

Chart, line chart

Description automatically generated

Chart

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### In United States: This is not nearly the case as it is in reality. However, it can almost predict the situation.

Chart, line chart

Description automatically generatedA picture containing application

Description automatically generated

### In India: the case is quite the same with the U.S.

Chart, line chart

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### In Brazil: The pandemic is predicted to end in early-August.

Graphical user interface, chart

Description automatically generatedChart

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### In Russia: It predicts Russia will witness a new wave of COVID-19 patients, peaking in early-August.

Chart, line chart

Description automatically generated

Chart, line chart

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### In the United Kingdom: the case is similar with Russian one, but the pandemic might end in late August.

Chart, line chart

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Chart

Description automatically generated with medium confidence

### In France: it almost accurate with the real situation in which France has relative low daily record in late June.

Graphical user interface, chart

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Description automatically generated with medium confidence

### In Spain: the model performs poorly with the country having multiple peaks which are difficult to fit. However, the data it predicts is approximate to real data.

Graphical user interface, chart, line chart

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### In Germany: Accuracy for this case is 50%. Although the pandemic has not yet ended in Germany, the daily records are low.

Chart

Description automatically generatedChart

Description automatically generated with medium confidence

In China: the case is special, which is almost a straight line with some records in early 2020Graphical user interface, line chart

Description automatically generated.

Chart, line chart

Description automatically generated

### In Thailand: This country has an increasing number of daily coronavirus cases. Due to the lack COVID-19 vaccines and the new variant named Delta, this is the most appropriate trend.

Chart

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### In Vietnam: This is what is most likely to happen in our country in next several weeks to come.

Chart, line chart

Description automatically generatedChart

Description automatically generated with medium confidence

### In Malaysia: The model predicts two possible outcomes: upward and downward trend. It depends on the transmission of the new variant and vaccine rollout speed of the country.

Graphical user interface, chart

Description automatically generated

Chart, line chart

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### In Japan: the graph shows that Japan is likely to control and eradicate the pandemic by the end of July 2021.

Chart

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### In South Korea: the situation is like as it is in Japan. South Korea is highly going to end the pandemic by the end of July.Chart, line chart Description automatically generatedChart, line chart Description automatically generated

### In Philippines: the case that Philippines will end the pandemic the mid-July is rather impossible.

Chart

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### In Singapore, the country has already controlled the pandemic, meaning that the curve has been flattened down but not all yet. There are still two-number daily records, but it doesn’t affect much.

Chart, line chart

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### In Australia: Thanks to the increase of vaccination, the figure start to drop at the end of June.

Chart, line chart

Description automatically generatedLine chart

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### In Indonesia: The prediction seems to be pessimistic, but the records show that this country are witnessing higher and higher number every day.

Line chart

Description automatically generated with medium confidence

In Israel: the country has controlled the pandemic, after injecting most of the population. The model is not good at fitting in this case. But the prediction is rather good.

Chart, line chart

Description automatically generatedGraphical user interface

Description automatically generated with medium confidence