Effectiveness of State Mask Provisions

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NAE GRAND CHALLENGES FOR ENGINEERING
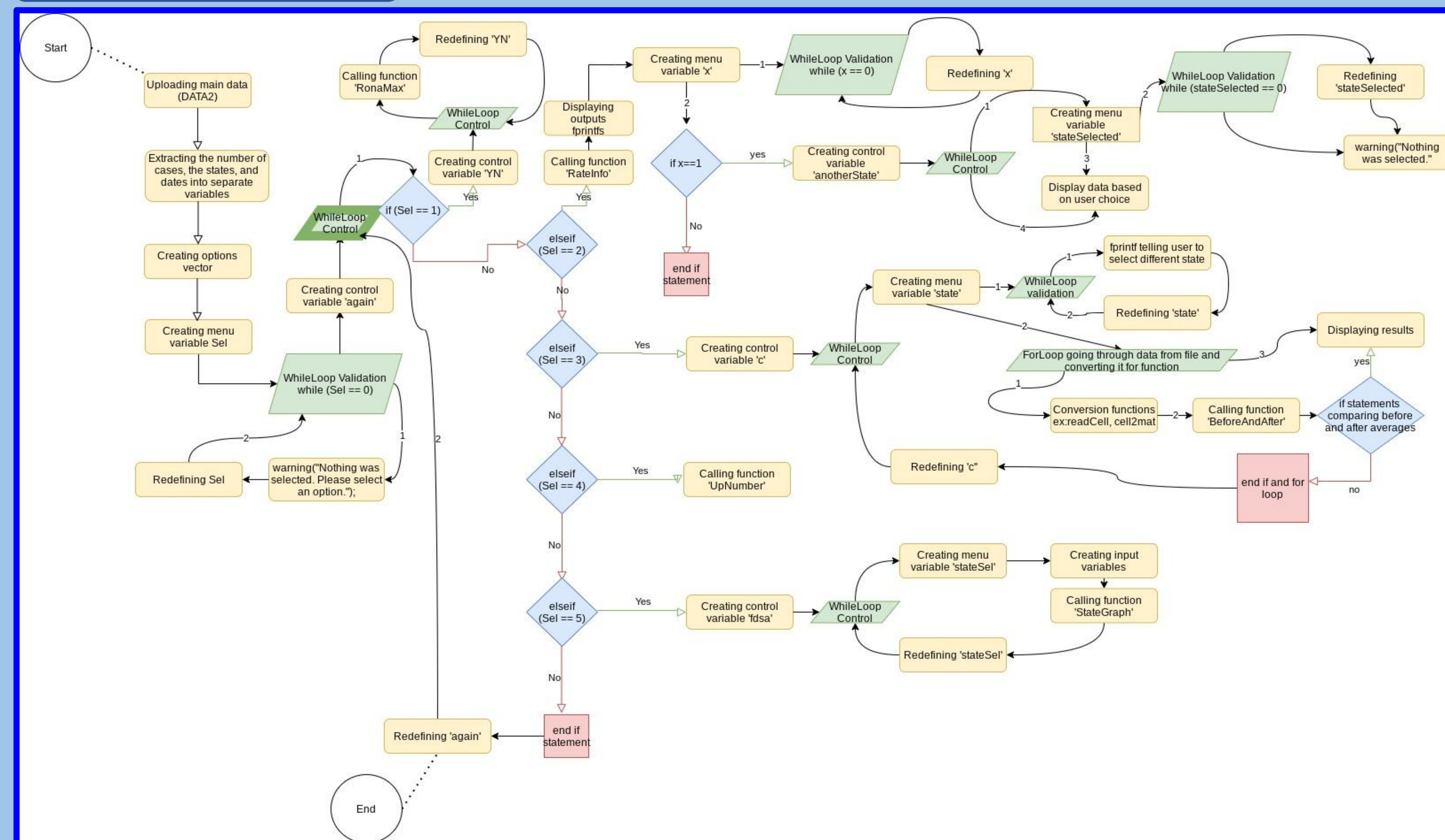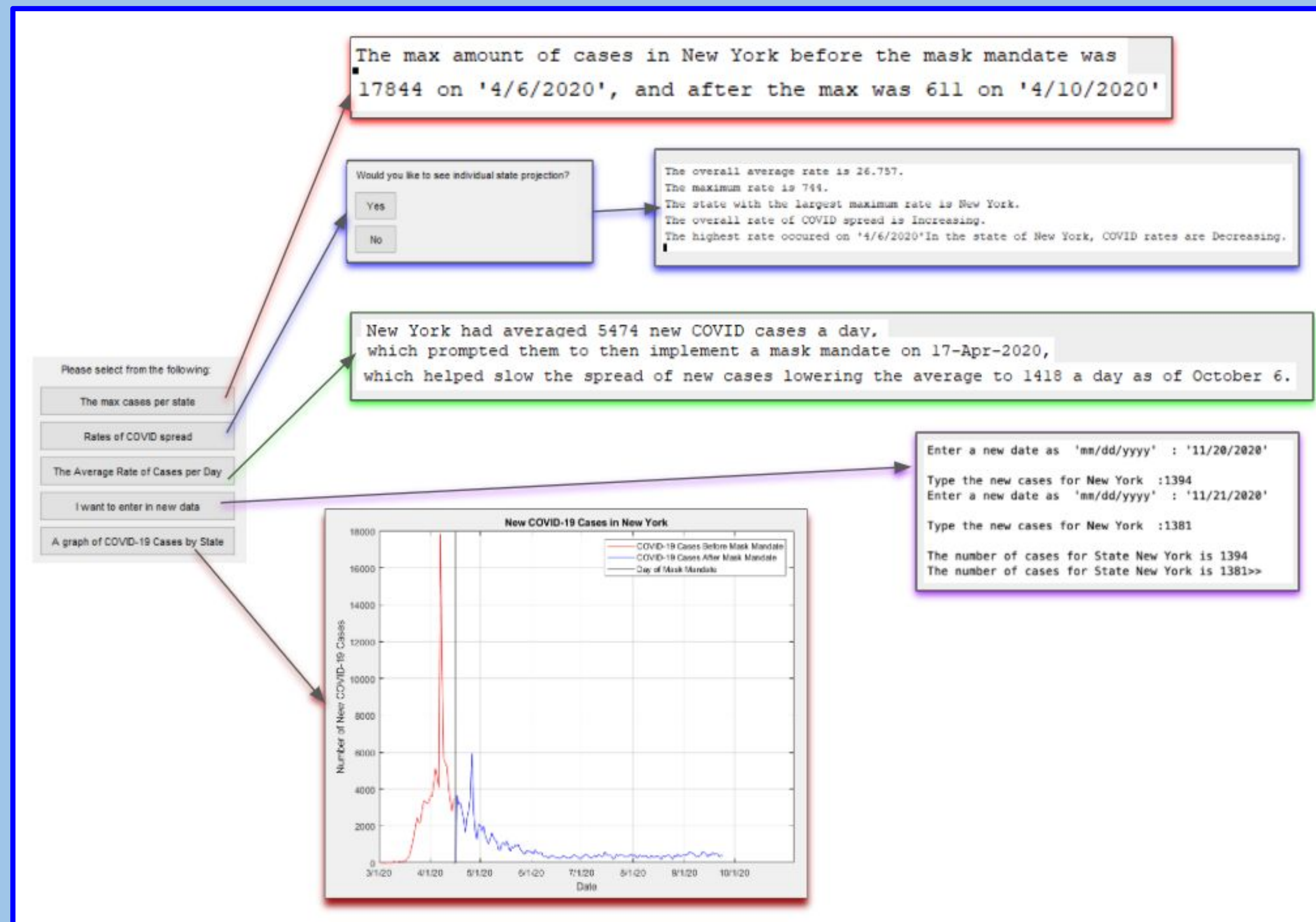### NATIONAL ACADEMY OF ENGINEERING

Background:

Covid-19 is a global pandemic that rapidly took over the world. So far, there have only been six vaccines for early or limited use and none for approved use (Corum, Wee, and Zimmer). Alternative methods of potentially slowing the spread need to come out, one of which is wearing a mask. This raises the question of whether wearing a mask would slow down the rate while waiting for the vaccines to come. The answers are conflicted due to many different opinions from various sources. One of the reasons would be new data is being released every day, making it harder to create an up-to-date report that can still be relevant months after release. Our program uses data compiled from various sources outlining the spread of COVID throughout the U.S. This data is cross-referenced to the dates mask provisions went into place.

Algorithm

Results for "New York"

The max amount of cases in New York before the mask mandate was 17844 on '4/6/2020', and after the max was 611 on '4/10/2020'

The overall average rate is 26.757.
The maximum rate is 744.
The state with the largest maximum rate is New York.
The overall rate of COVID spread is Increasing.
The highest rate occured on '4/6/2020'In the state of New York, COVID rates are Decreasing.

New York had averaged 5474 new COVID cases a day, which prompted them to then implement a mask mandate on 17-Apr-2020, which helped slow the spread of new cases lowering the average to 1418 a day as of October 6.

Enter a new date as 'mm/dd/yyyy' : '11/20/2020'
Type the new cases for New York :1394
Enter a new date as 'mm/dd/yyyy' : '11/21/2020'
Type the new cases for New York :1381

The number of cases for State New York is 1394
The number of cases for State New York is 1381>>

Future Steps: Overall, this program could be extended to include other COVID prevention laws and procedures.

Code Improvements:

- **Additional user input (extend menus)**
- **Modify UpNumber function to allow user to enter more COVID info**
- **Output notable mask mandates**

Conclusions/Limitations:

Conclusion-The program focuses on the number of cases and cross-references them with the dates mask provisions went into place.

Limitations-The program only accounts for when provisions went up, not if they were taken down. It also does not account for changes in mask provisions(strict,not as strict, etc.)

Citations:

Corum, Jonathan, Wee, Sui-Lee and Zimmer, Carl. "Coronavirus Vaccine Tracker." *The New York Times*, https://www.nytimes.com/interactive/2020/science/coronavirus-vaccine-tracker.html. Accessed 6 Nov 2020.

Markowitz, Andy. "Does Your State Have a Mask Mandate Due to Coronavirus?" *AARP*, www.aarp.org/health/healthy-living/info-2020/states-mask-mandates-coronavirus.html.