# System test case - #5

## Test case details

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Device: Desktop Computer, fast modern processor, Windows 11 Home v.23H2

Environment details:

- Most recent master branch of the project github as of 11.04.
- most recent commit is d0cf9c981554ced10495ebe97fde5dc8c412df18
- Anaconda virtual environment used with development
- Python and used imports:
  - Python 3.12.1
  - numpy 1.26.3
  - pandas 2.1.4
  - us 3.1.1

## Test details

Test is a system test, running the whole model with specific parameters. In this test we run the same test as #4 a few times (Patel's master's thesis parameters), with the goal of comparing results and becoming confidently assured that the model is working as expected

Parameters:

- Dataset: NYtimes
- END_DATE: 2022-03-06
- VAL_END_DATE: 2022-03-08
- level: nation

## Test steps and results:

Run 1:

1. Run validation.py with the following arguments:
   --END_DATE 2022-03-06 --VAL_END_DATE 2022-03-08 --dataset NYTimes --level nation
   *a.* Result: Successful validation, files generated found in the folder *System test 5 / 1 / Step 1*
2. Run generate_predictions.py with the same arguments
   a. Result: Successful run, files in *.. / 1 / step 2*

Run 2: Repeat

1. Run validation.py with the following arguments:
   --END_DATE 2022-03-06 --VAL_END_DATE 2022-03-08 --dataset NYTimes --level nation
   a. Result: Success, files in *.. / 2 / Step 1*
2. Run generate_predictions.py with the same arguments
   a. Result: Success, files in *.. / 2 / Step 2*

## Test results

After this test, we have run the Master's thesis parameters in 4 separate test cases with each ending successfully.

### Run 1 prediction data:

For Argentina, looks similar to system test #4 in that the prediction again predicts 0 daily mortality for all but the end of the prediction period.

For the US, data is also similar to system test #4.

### Run 2 prediction data:

In run 2, daily fatality is again similar to test #4 and to Run 1.

Based on these runs and system test #4, I can conclude that the program is working in a consistent manner and that there is no reason to think the model is not working as expected. To get more in-depth analysis of the model or the program, someone with deeper knowledge of either statistics or epidemic models should take a look at the generated data files. Still, I think the G11 project team is satisfied with the statement that the model is working.