Goal of model:
- Predict a projected window in a given date where appointments are likely to be available, and how many appointments

What is needed for this prediction:
- Data from all days of the week **- done**
- Appointment number and availability for the given dates **- done**
- Times of appointments **- partially done**
    - Some clinics do not have the same time splots, some predictions might need to be made in order to fill in missing data (such as filling with mean or mode value)

How model prediction works:
- Will take data as a time series and be able to predict number of available appointments by forecasting new data on historical time series data that we have gathered beforehand
- This can be done by looking at rate-of-change between different time-stamps when data was collected
- Univariate time series (one variable being observed)
- Classification - either available or unavailable
- ARIMA model for forecasting times given historical data
- Have user enter a day of the week in which they want an appointment
    - Have a model for each day of the week to get accurate forecasting for that day of the week
- Given a **specific day of the week** and **a specific time range** to have the desired appointment, program will give a **window in which appointments are likely to be available**

Input:
- What day they want to get the appointment
- What their desired time is for their appointment (option to put in a single slot or a range)
- What locations they would like *(this might not get completed)*
- **User inputs a day of the week they want the appointment at**
- **User inputs a range of time they want the appointment at OR a specific time**

Output:
- Window where the User should login to vaccinateri.org and make that appointment, where appointments are likely to be available