We fix the **S** value close to the value of infected people at the start of each wave.

We find the value of **D, L, M** by using three for loops started from the lower bound of each value, increasing the value of **D, L, M** by 2, 0.001, 1000 respectively and the loops run until they reach the upper bound, creating an interval of **D, L, M** values that can then be tested after each iteration. Then, the **S, D, L, M** values are used in the equation:

$$s(d) = S + \frac{M}{1 + e^{-L(d-D)}}$$

Then to calculate the mean square error or **MSE** between our projected s-curve and the past data starting from the first day of the most recent wave of infection until the last day that we have data, we used the following equation:

$$MSE = \frac{\sum_{d \text{ in } \Lambda} (s(d) - r(d))^2}{|\Lambda|}$$

Where **s(d)** is the projected value of infection on day d, **r(d)** is the actual value of infection on day d, **Λ** is the interval of days and **|Λ|** is the number of days.

Then we use the **S, D, L, M** values in the range of the upper bound and the lower bound to search for the ones that give the smallest MSE value so the graph would be closest to the actual one.