COVID19 SIR MODEL EQUATIONS

1 Covid19 Model Equations

These are the equations for the model:

$$\frac{dS}{dt} = -\beta_0 * I_0 * \frac{S}{N} - \beta_1 * I_1 * \frac{S}{N} - \beta_2 * I_2 * \frac{S}{N} \tag{1}$$

$$\frac{dI_0}{dt} = \beta_0 * I_0 * \frac{S}{N} - \gamma_0 I_0 \tag{2}$$

$$\frac{dI_1}{dt} = \beta_1 * I_1 * \frac{S}{N} - \gamma_1 I_1 \tag{3}$$

$$\frac{dI_2}{dt} = \beta_2 * I_2 * \frac{S}{N} - \gamma_2 I_2 \tag{4}$$

$$\frac{dR_0}{dt} = \gamma_0 I_0 \tag{5}$$

$$\frac{dR_1}{dt} = \gamma_1 I_1 \tag{6}$$

$$\frac{dR_2}{dt} = \gamma_2 I_2 \tag{7}$$