

Assignment 5: Modeling COVID-19

MinJae Jo

2025-09-24

Exercise 1

```
days_range <- 1:250
```

Exercise 2

```
susceptible <- 300000000  
infectious  <- 1  
recovered   <- 0
```

Exercise 3

```
beta  <- 0.25  
gamma <- 0.125  
N     <- 300000001  
  
for(day in 2:250){  
  susceptible[day] <- susceptible[day - 1] - (beta * susceptible[day - 1] * infectious[day - 1])  
  infectious[day]  <- infectious[day - 1] + (beta * susceptible[day - 1] * infectious[day - 1])  
  recovered[day]   <- recovered[day - 1] + (gamma * infectious[day - 1])  
}
```

Exercise 4

Exercise 5

Exercise 6

Exercise 7

Exercise 8

Academic Integrity statement