3) Many curves fall down to 0 but in reality they are not exactly 0 but very close to 0. In other words such curves hit 0 when x approaches infinity. We call such curves asymptotic.

In the model presented before, if we consider $f(x)$ i.e the function which models the number of infected people with x (time / days), then $f(x)$ reaches 0 after a threshold. When the number of infected people is 0, one can say it is safe to move about. We can do a binary search to find lower bound l s.t ~~If~~ $f(l) = 0$.

According to the plots attached ~~I(t)~~ for Italy, $f(x) = 0$ at $t = 900$. In other words, it would be complete safe to move about in Italy after couple of years. This is however unrealistic as people cannot remain in lockdown for such a long period. For ~~the~~ Italy's case, we therefore decide a threshold $\alpha = 10$, and we say that if number of infections falls below 10 it is safe to move about. In order to hit

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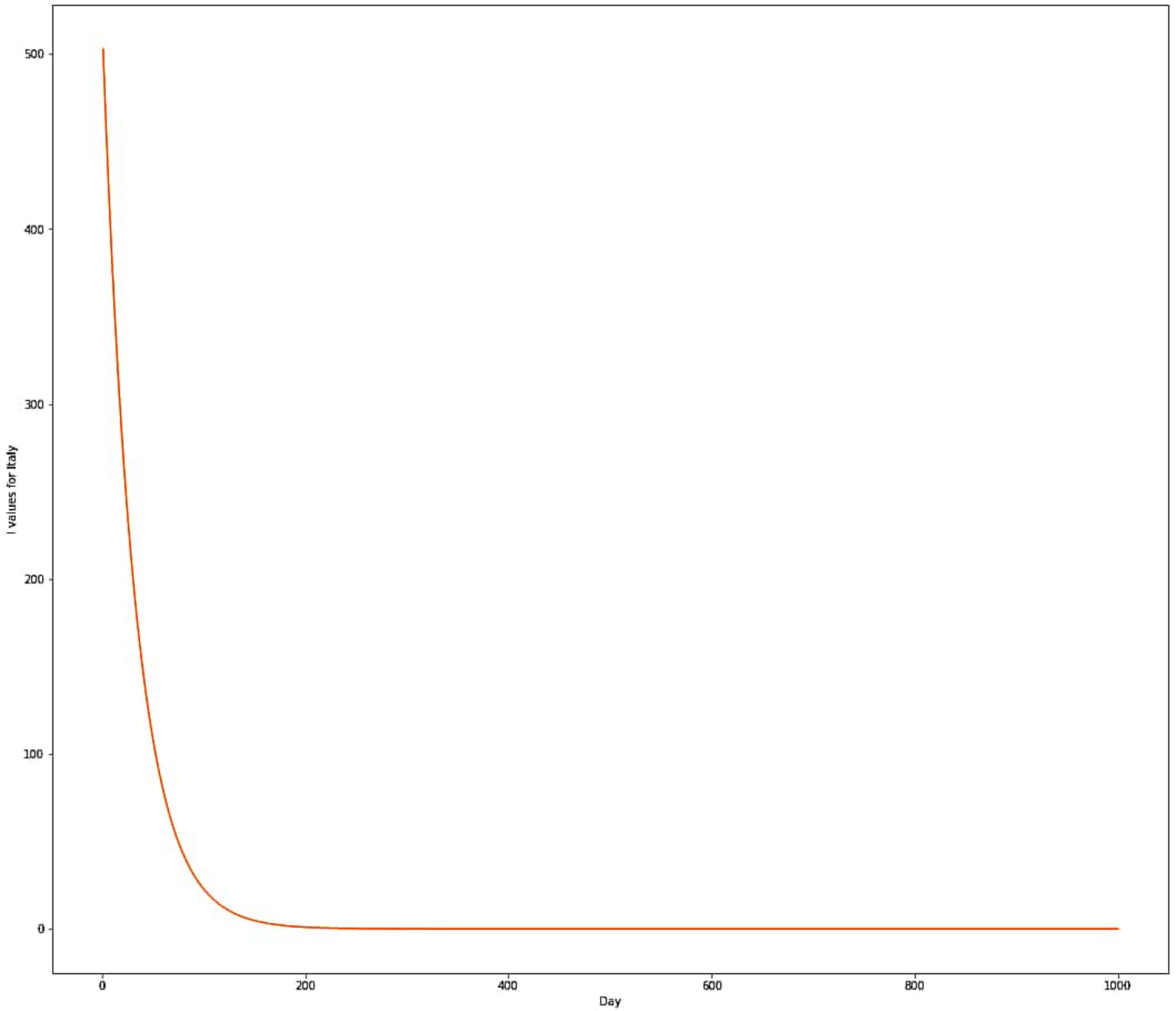
$f(t) = 10$, it takes approx. 123 days from the start of decline phase of corona cases.
∴ We conclude it may be safe to move about in Italy after approx. 4 months from the start of the phase of decline of Corona cases in Italy.

Phase of decline of corona cases plot for Italy is attached below:


500
400
300
200
100
0
I values for Italy
0
200
400
600
800
1000
Day