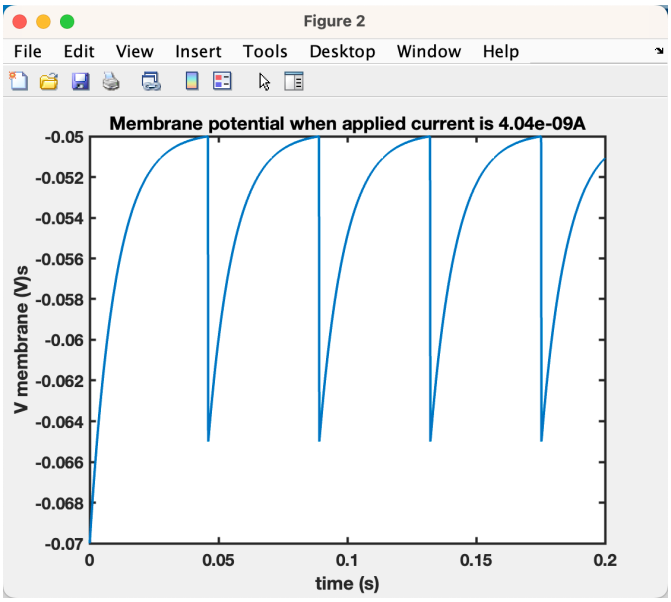
Question 1

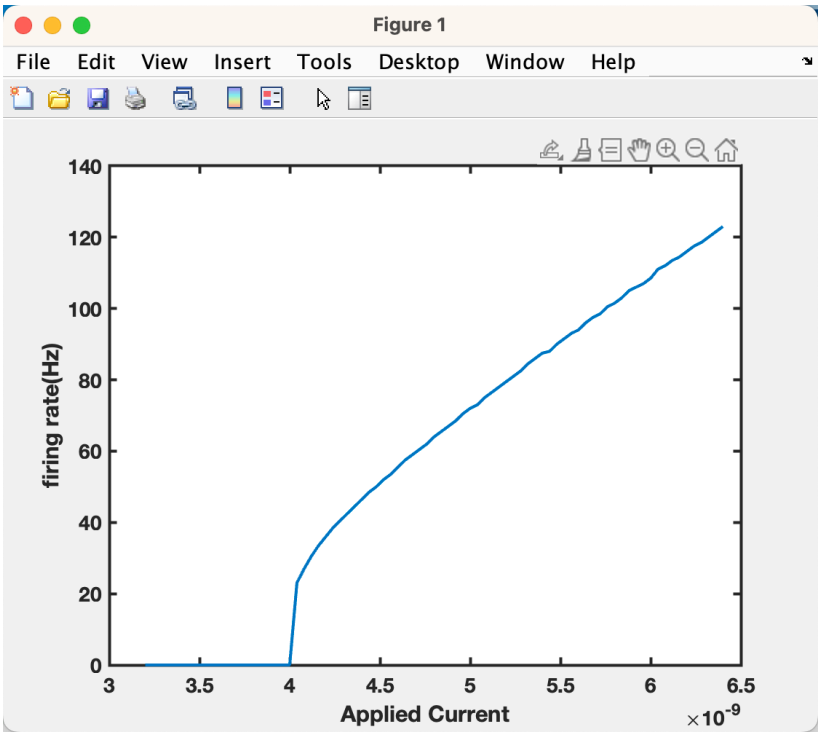
(a), (b)



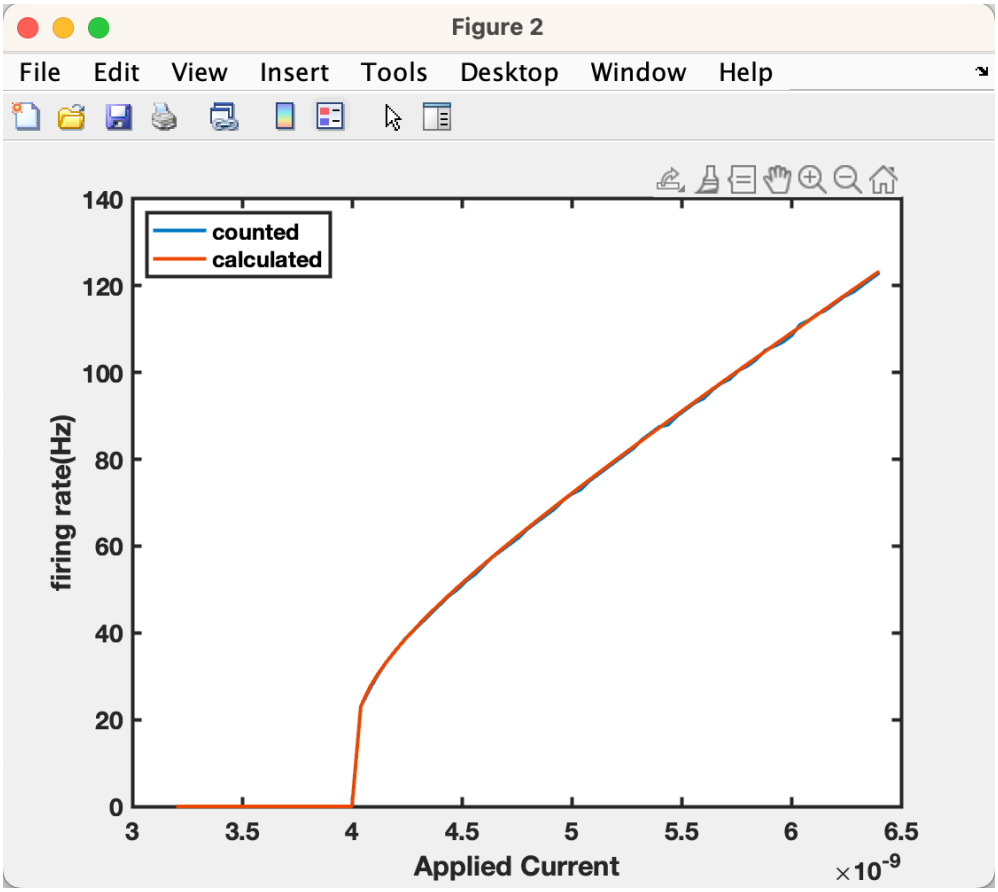
The minimum applied current is 4nA (not inclusive)

Figure above has 4.04nA applied current.

(c). Set `question_number` to 1, and `compare` to 0 to see the plot

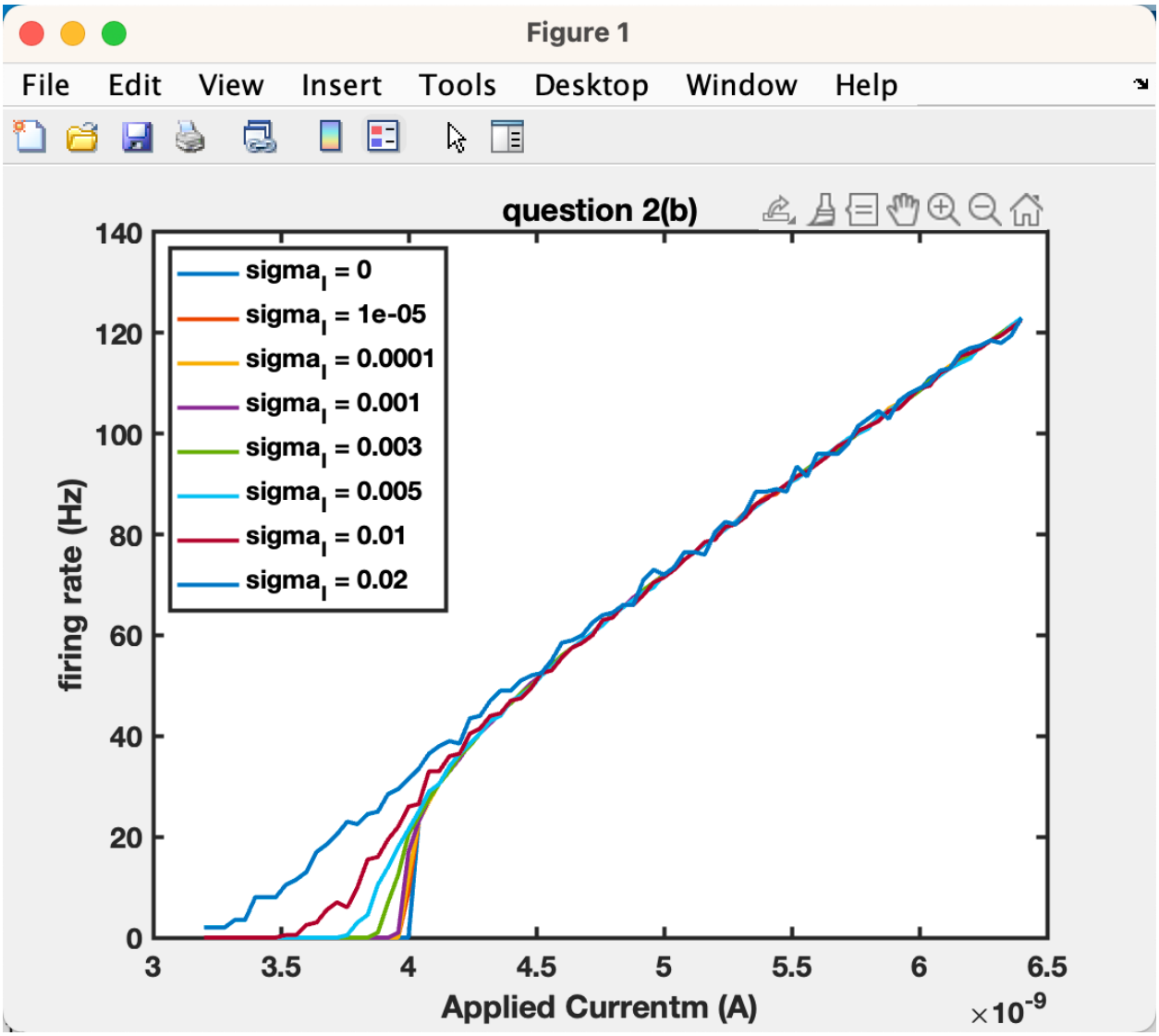


(d).



Question 2.

(a), (b) The increase of sigma_I would increase the standard deviation for noise. As sigma_I increase, the graph would fluctuate more. The fluctuation would be more observable as sigma_I increases. The shape of graph would change when the sigma_I value is above 1e-3.



(c). The results are the same. Figures with smaller dt values overlap

You may check it out by following steps

1)Run the code, do not close the figure

2)Change dt value from 1e-4 to 1e-5, and run the code again

There might be small deviations due to the due to the noise, but it should generally overlap.