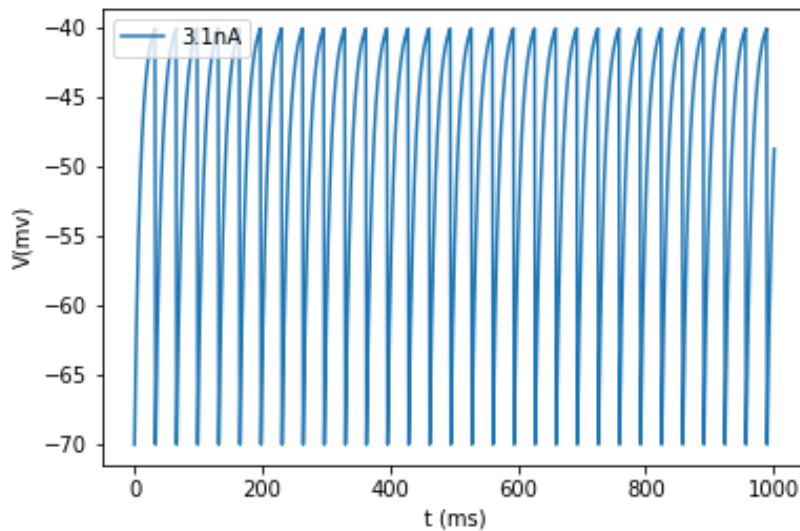
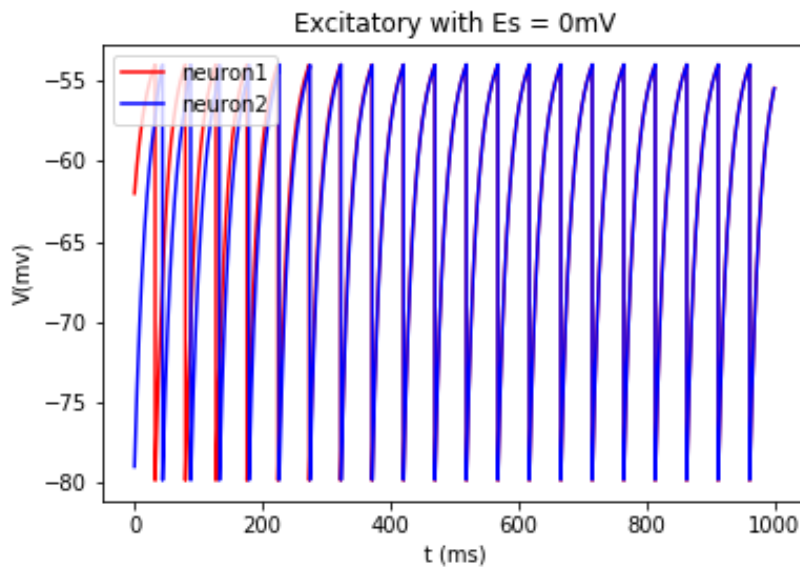


Question 1

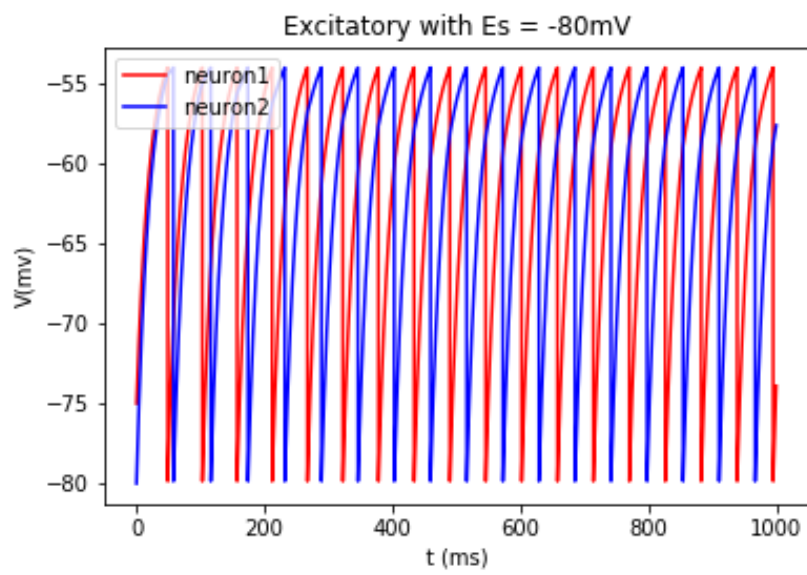


The figure above shows the result of the voltage as a function of time, that simulate an integrate and fire model with the given parameters within 1 s. There are 30 spikes per 1 s, which around 33ms for one spike.

Question 2



The above figure shows two neurons which have synaptic connections between each other, that the synapses are excitatory with 0 mV in this case. We can see the voltage of two neurons are synchronising from the start, 0 ms to the end, 1000 ms.



In this case, the synapses are inhibitory with -80 mV, the figure can show the voltage of two neurons are desynchronising from the start, 0 ms to the end, 1000 ms.