

BT6270- Assignment1 - Report

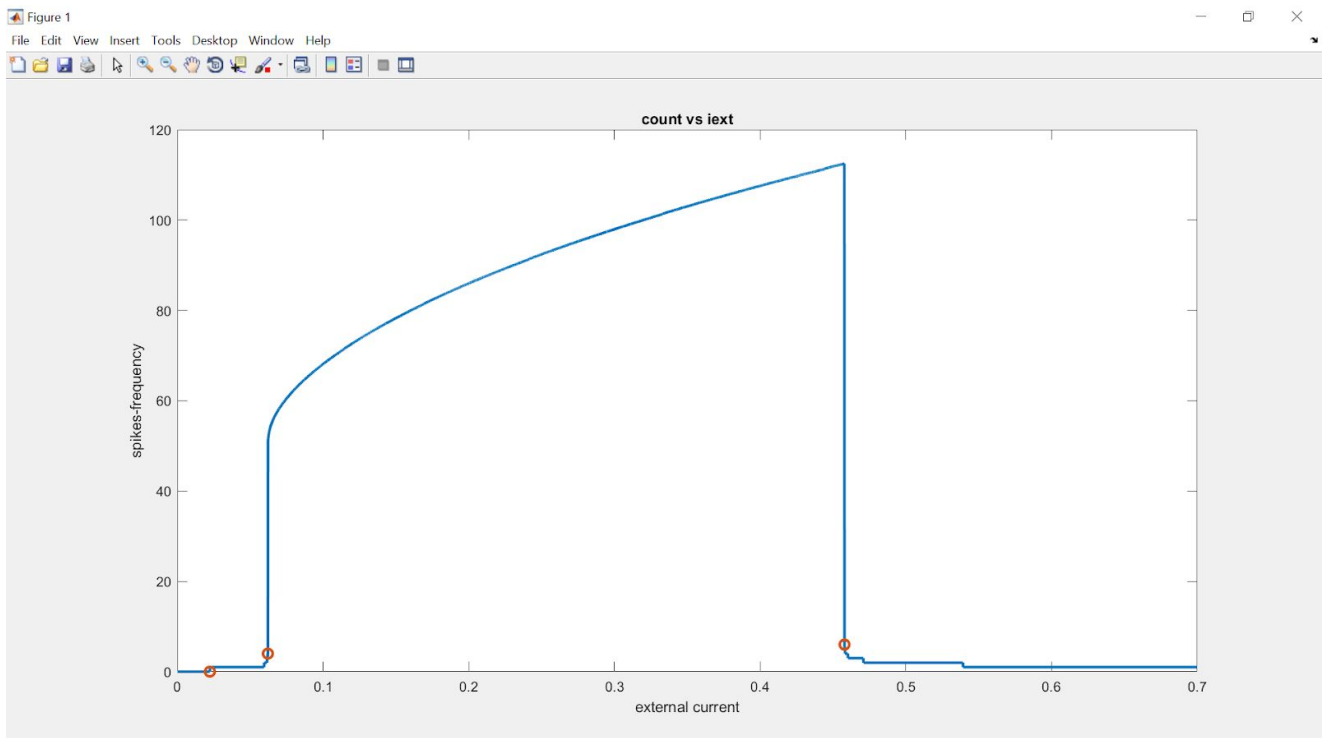
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Question 1

```
Command Window

>> peak
i1 = 0.0223
i2 = 0.0621
i3 = 0.4579
fx >>
```

Question 2



Assumptions made:

I have only included signal peaks whose voltage value is greater than 10mv.

Code Flow:

- question2.m contains the code to generate voltage vs I external plot.
- peak.m file contains the code to generate firing rate vs I external plot and identify I1, I2, and I3.
- peak.m file makes calls to question2.m file and retrieves voltage values over the time period.

Observation:

No AP - finite number of AP's Transition - 0.0223 μA

Finite number of AP's - Continuous firing Transition - 0.0621 μA

Continuous firing followed by distortion resulting in no more APs - 0.4579 μA

The time interval variable must be greater than a threshold to fully attest a signal as a continuous firing signal, This value is used to exclude finding frequencies of finite firing signals. So this factor has been taken into account and adjusted.

Even though the firing rate has decreased after 0.46 μA , we can still see few activation signal peaks and the signal hasn't fully died out.