

گزارش تمرین سری اول
پیاده سازی مدل های LIF, ALIF, AELIF
استاد: دکتر سعیدرضا خردپیشه

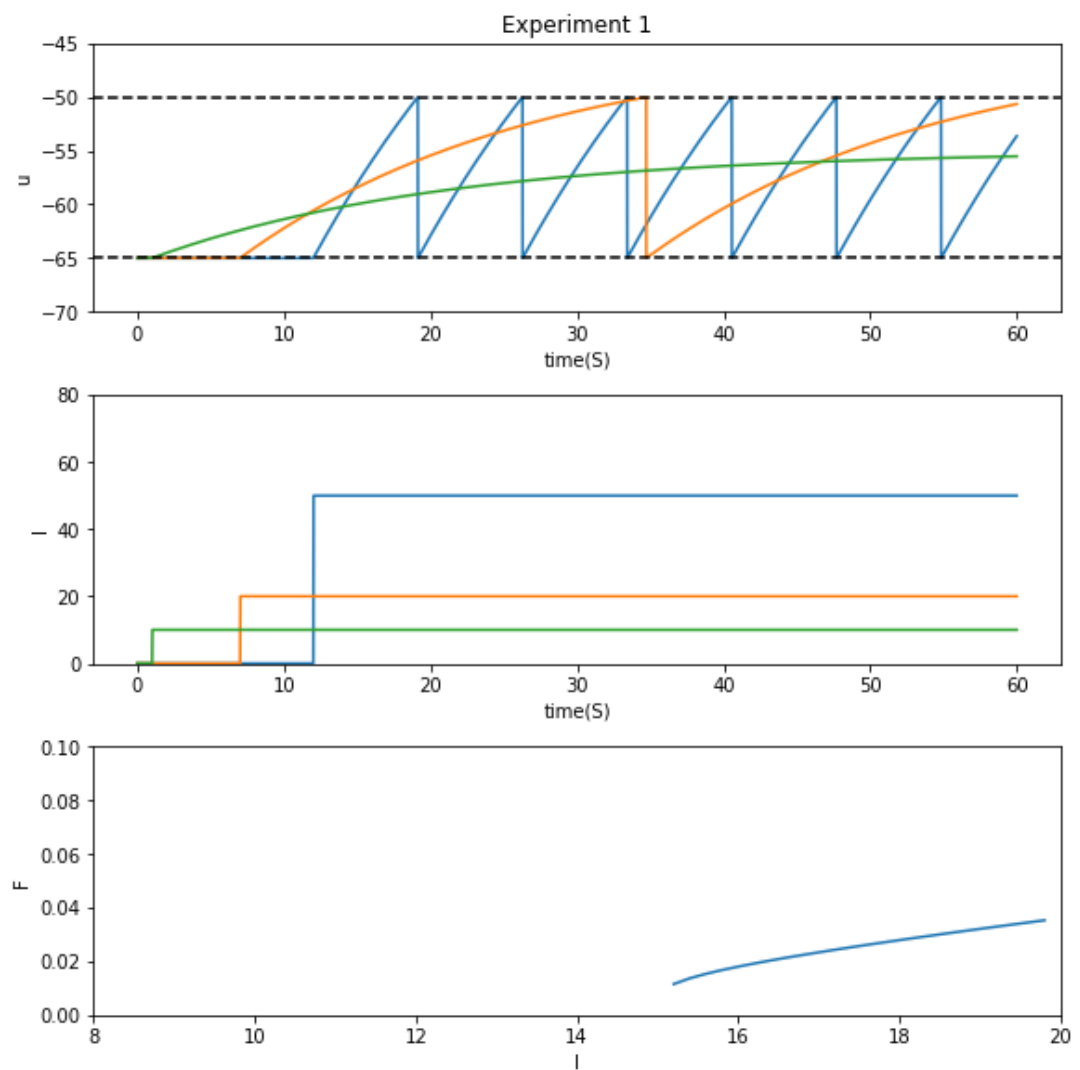
صبا حسین نیان-97222025

آزمایشات:

: LIF

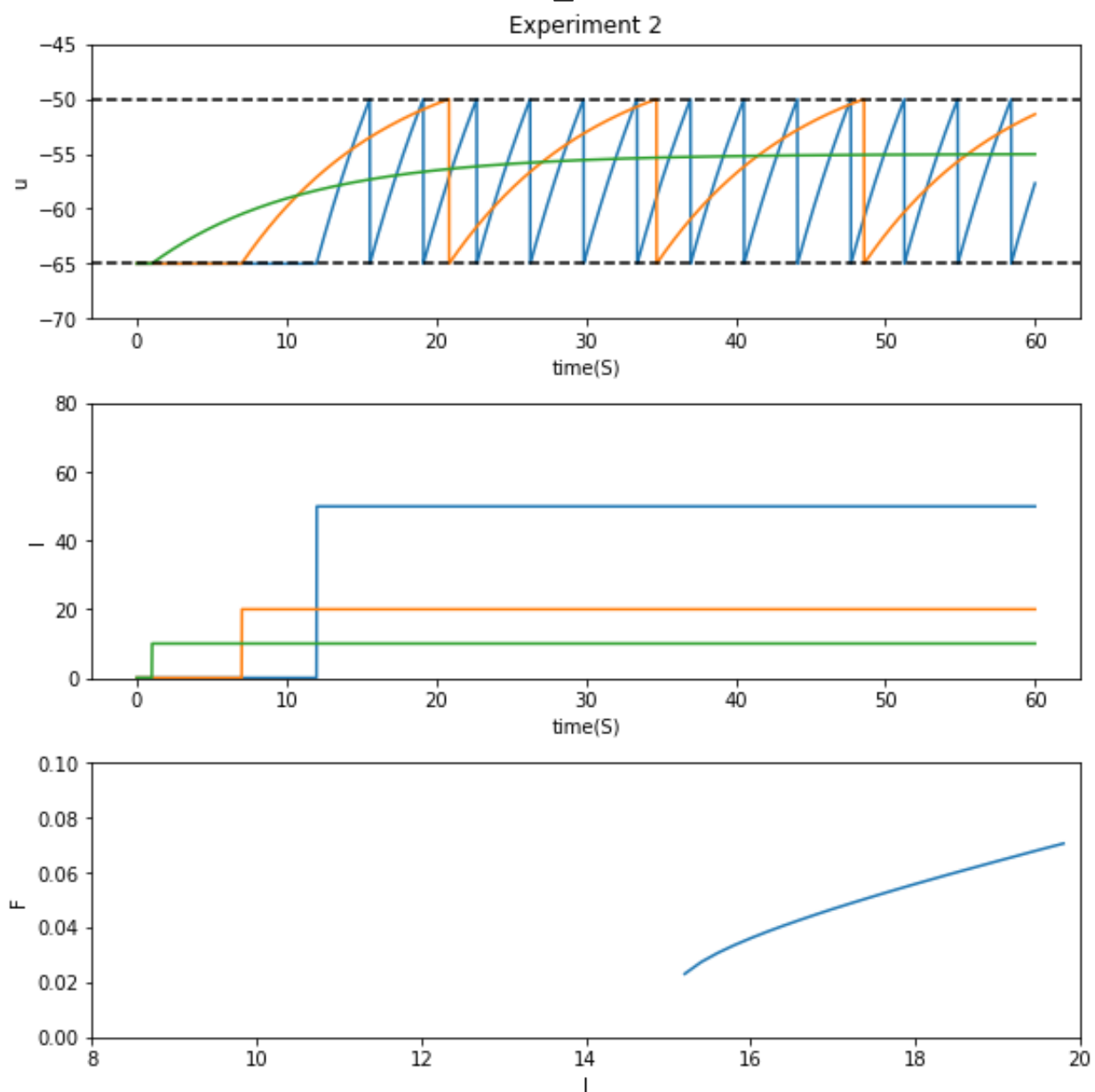
.1

$\tau = 20$, threshold $= -50$, $u_{\text{rest}} = -65$, $R = 1$



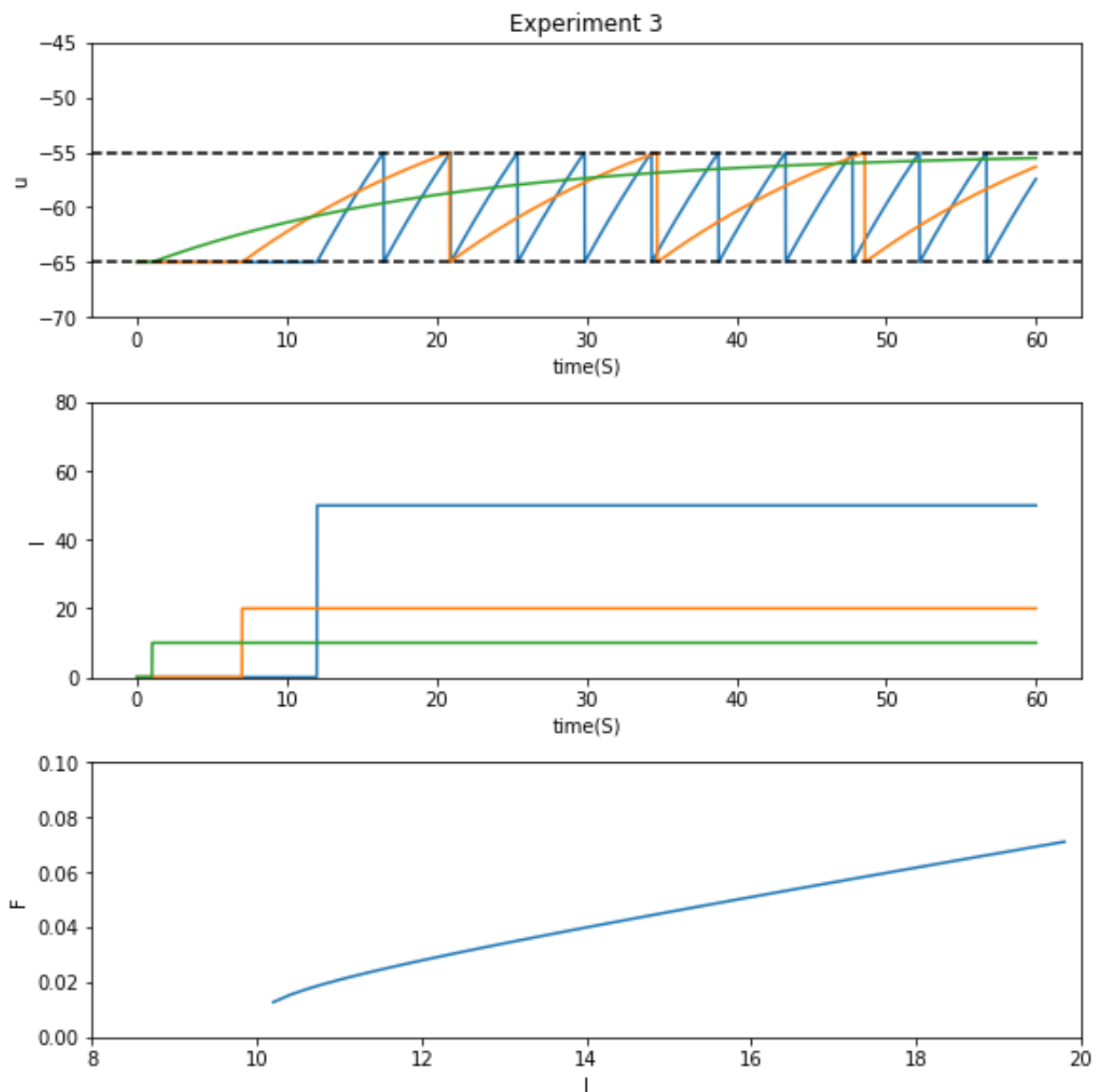
.2

$\tau = 10$, threshold $= -50$, $u_{\text{rest}} = -65$, $R = 1$



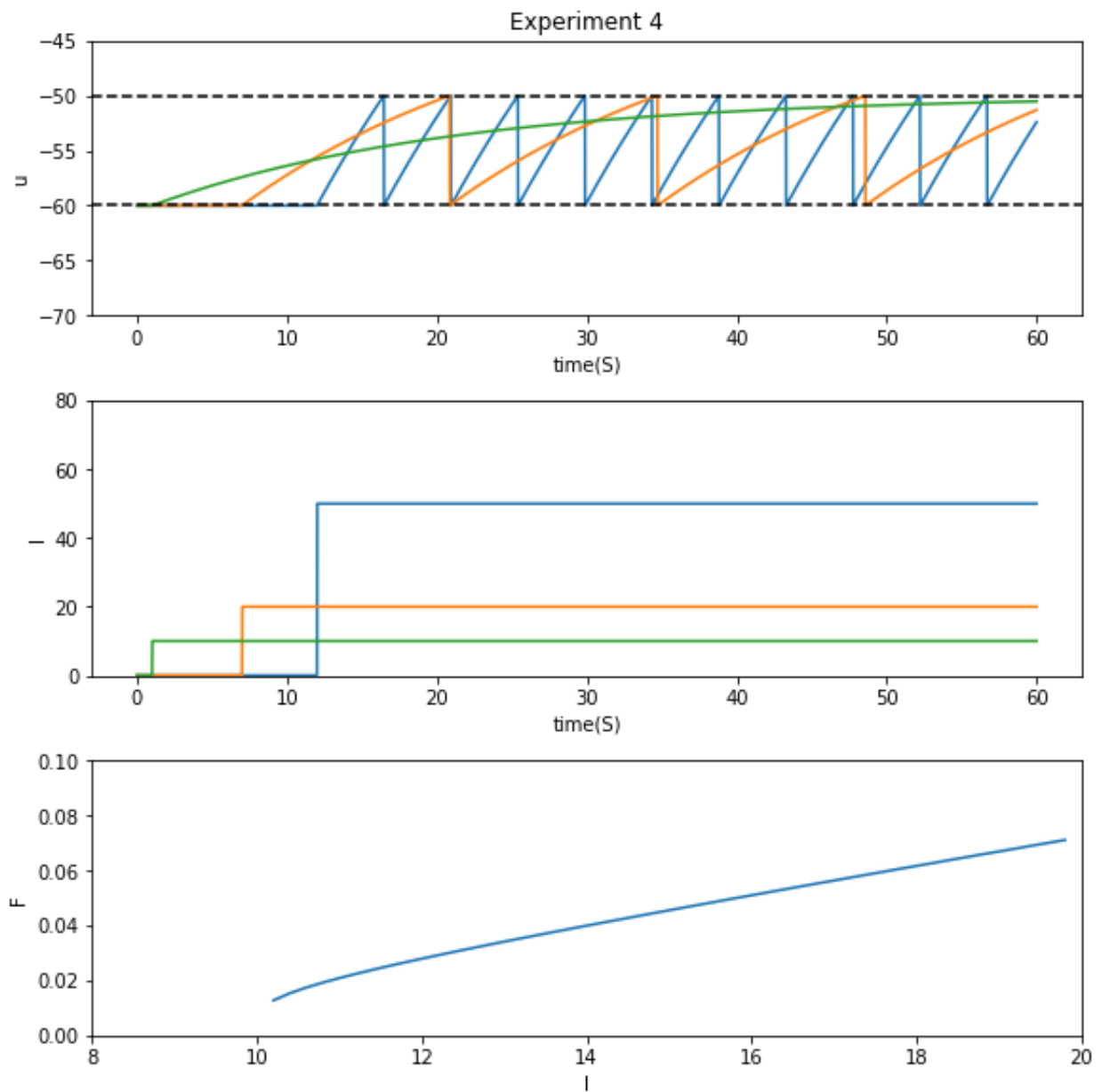
.3

$\tau = 20$, threshold $= -55$, $u_{\text{rest}} = -65$, $R = 1$



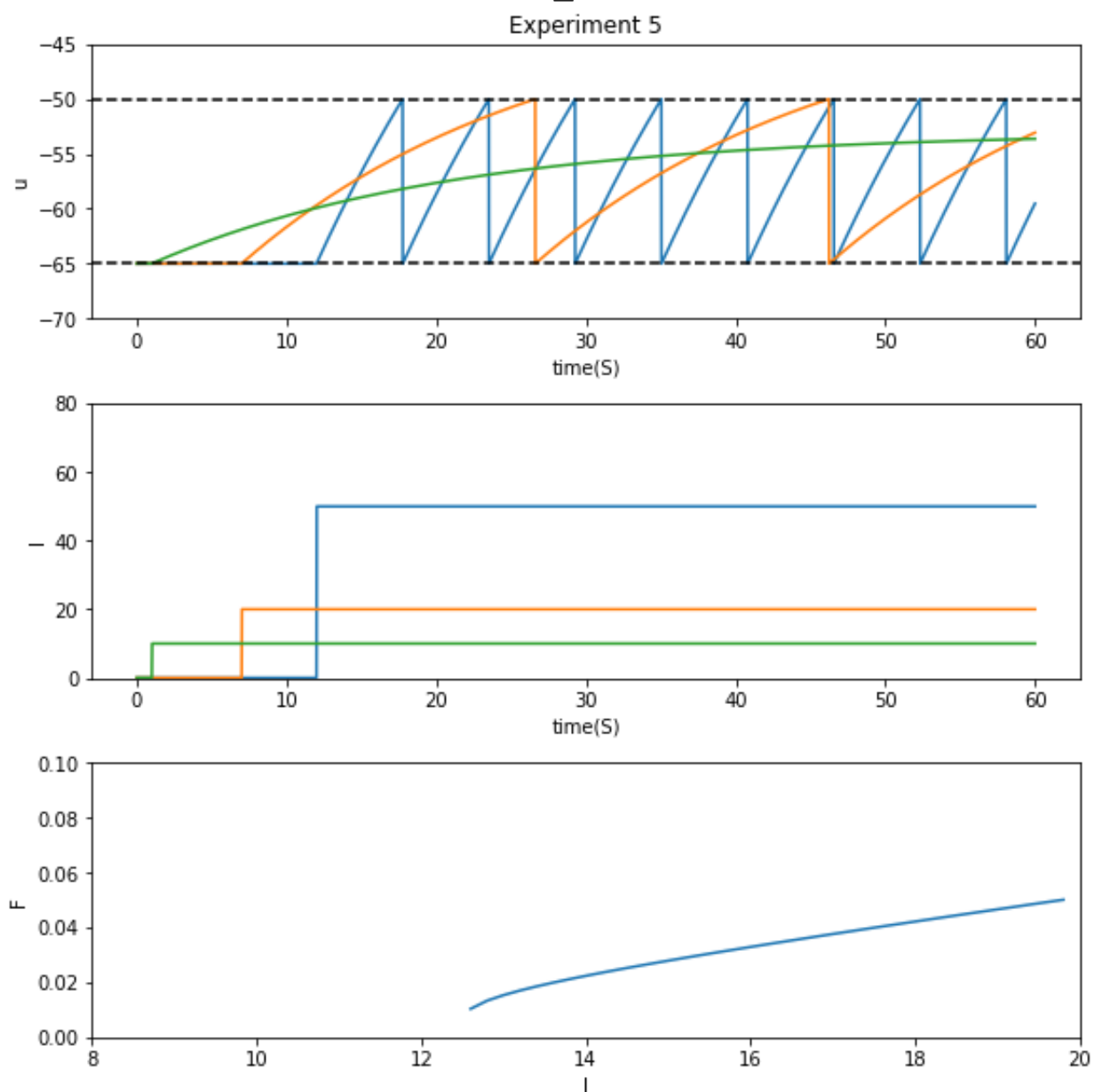
.4

$\tau = 20$, threshold $= -50$, $u_{\text{rest}} = -60$, $R = 1$



.5

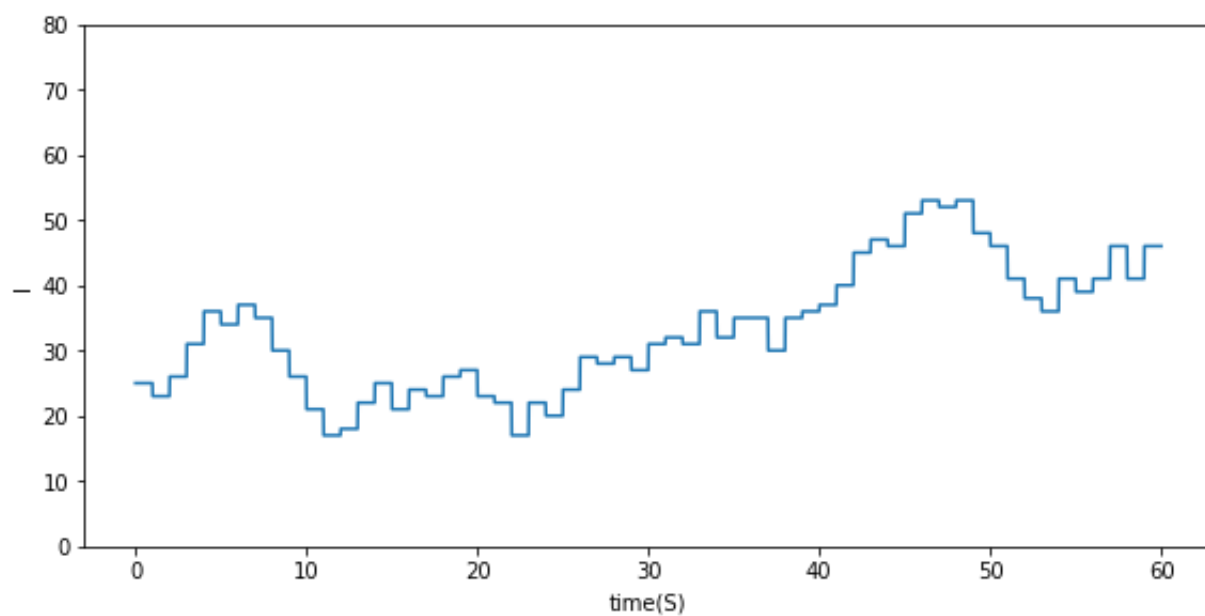
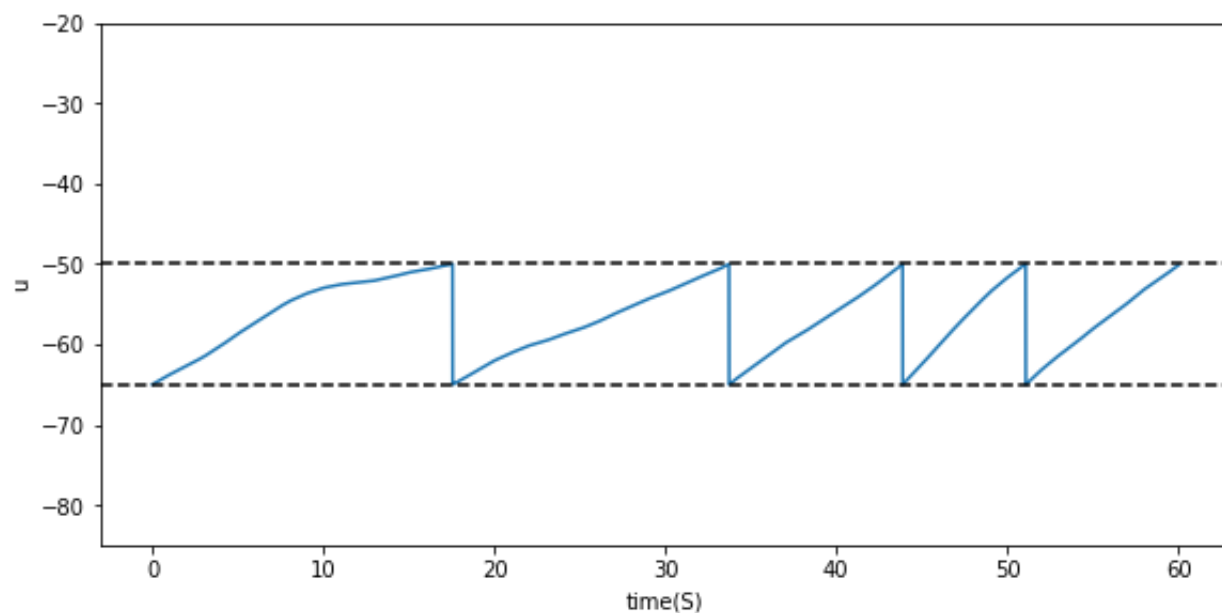
$\tau = 20$, threshold $= -50$, $u_{\text{rest}} = -65$, $R = 1.2$



LIF با رندوم:

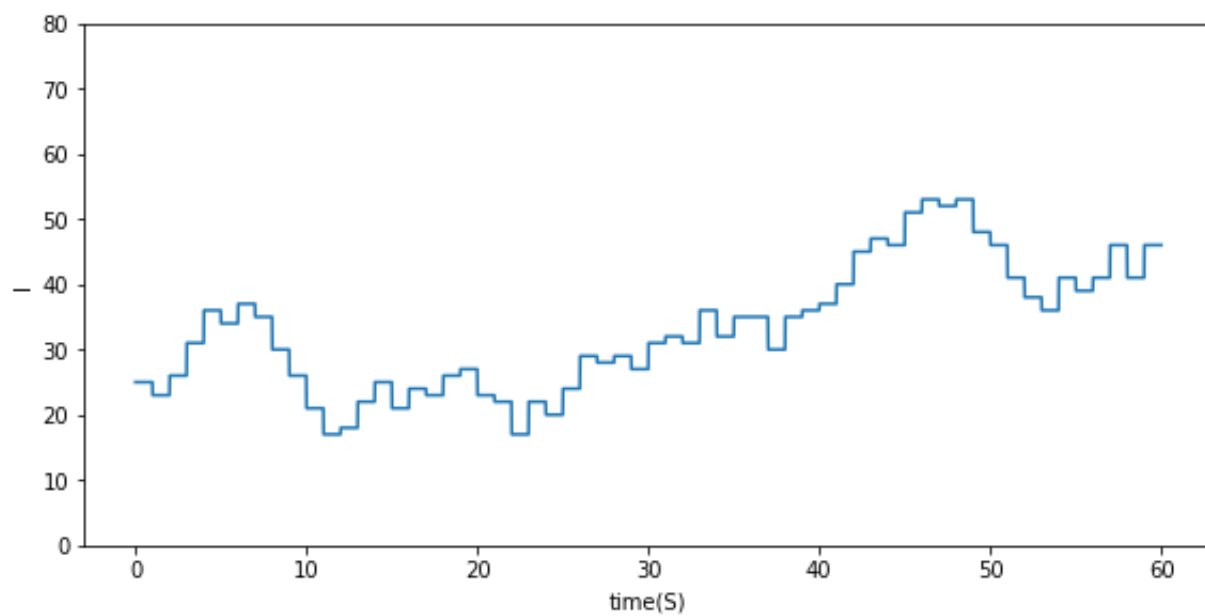
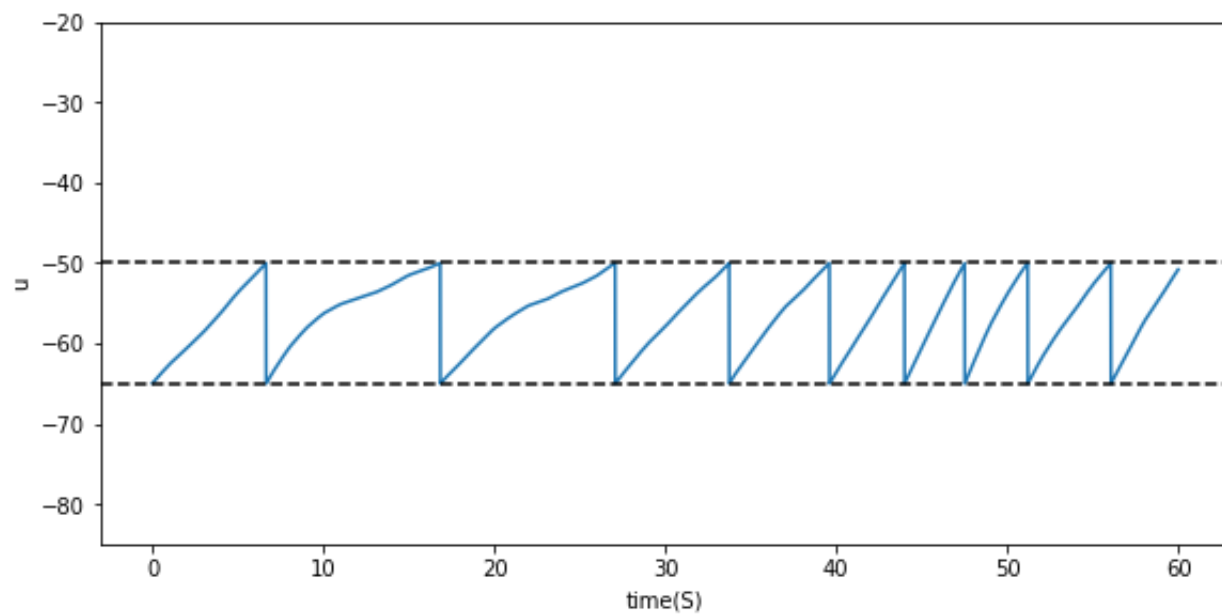
1.

$\tau = 20$, threshold = -50 , $u_{rest} = -65$, $R = 1$



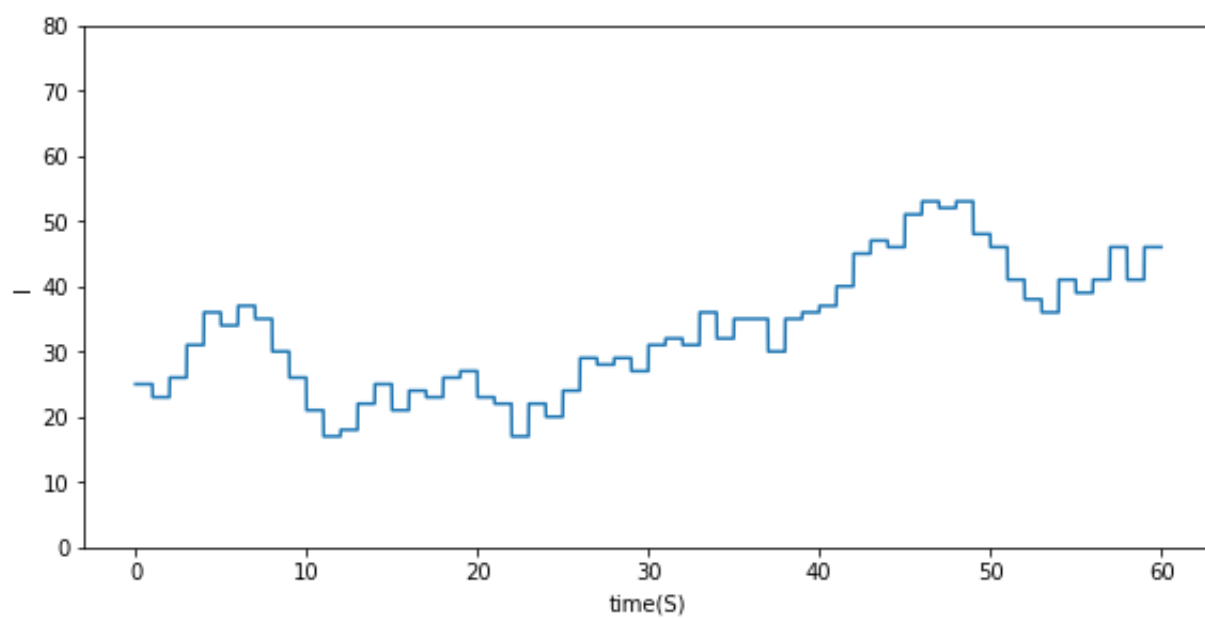
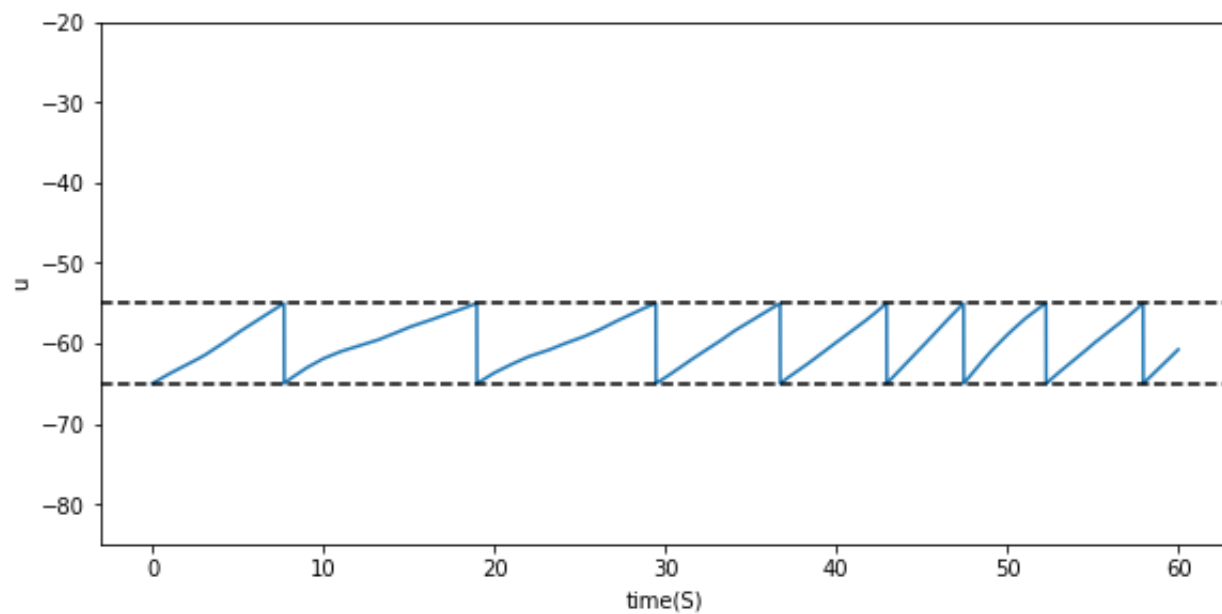
.2

$\tau = 10$, threshold = -50 , $u_{rest} = -65$, $R = 1$



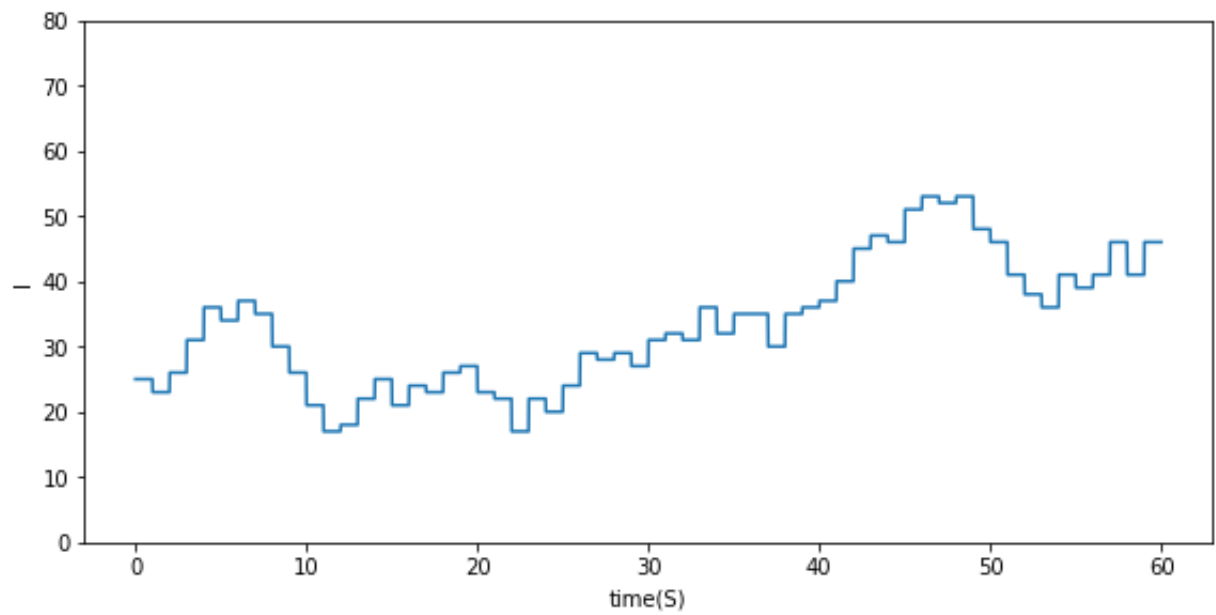
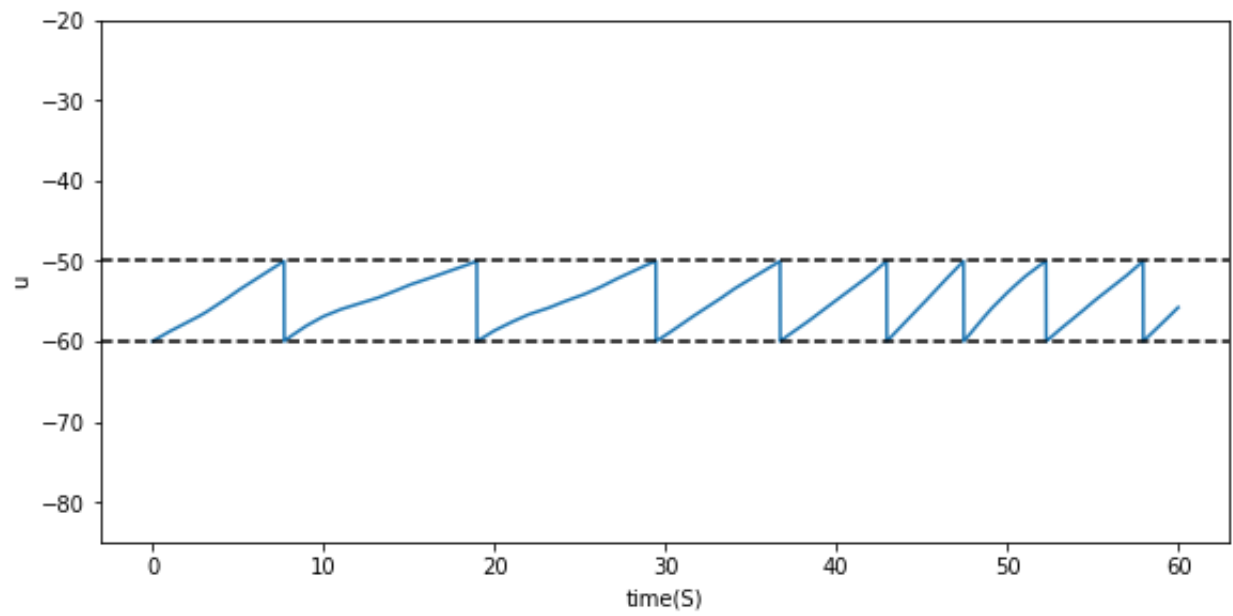
.3

$\tau = 20$, threshold = -55 , $u_{rest} = -65$, $R = 1$



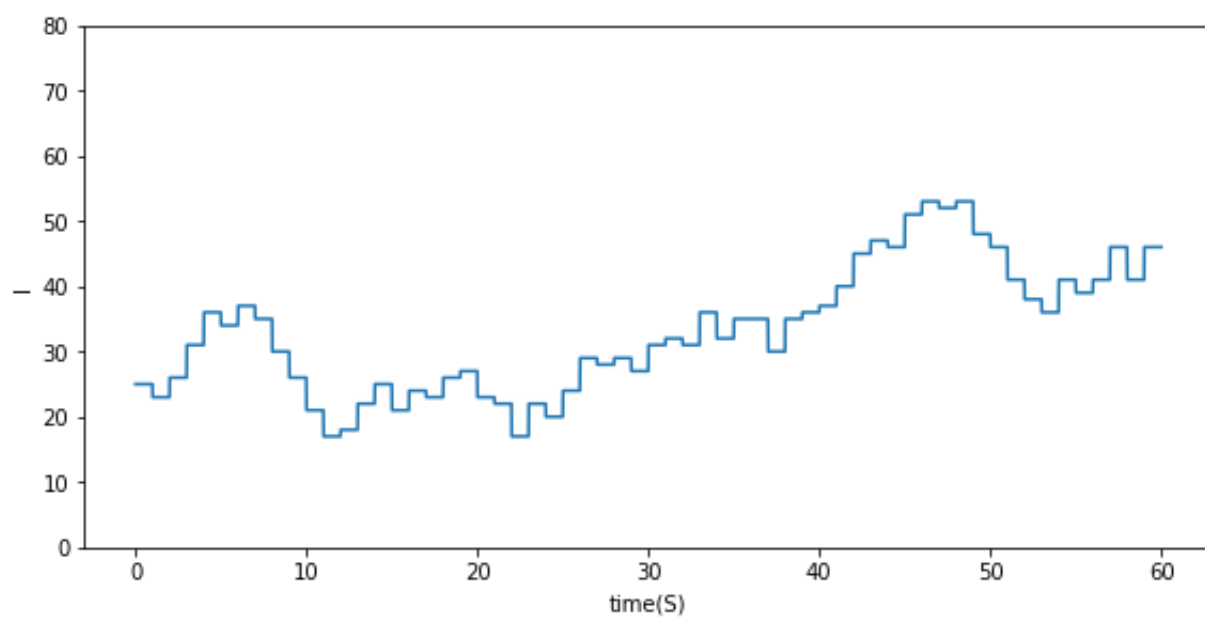
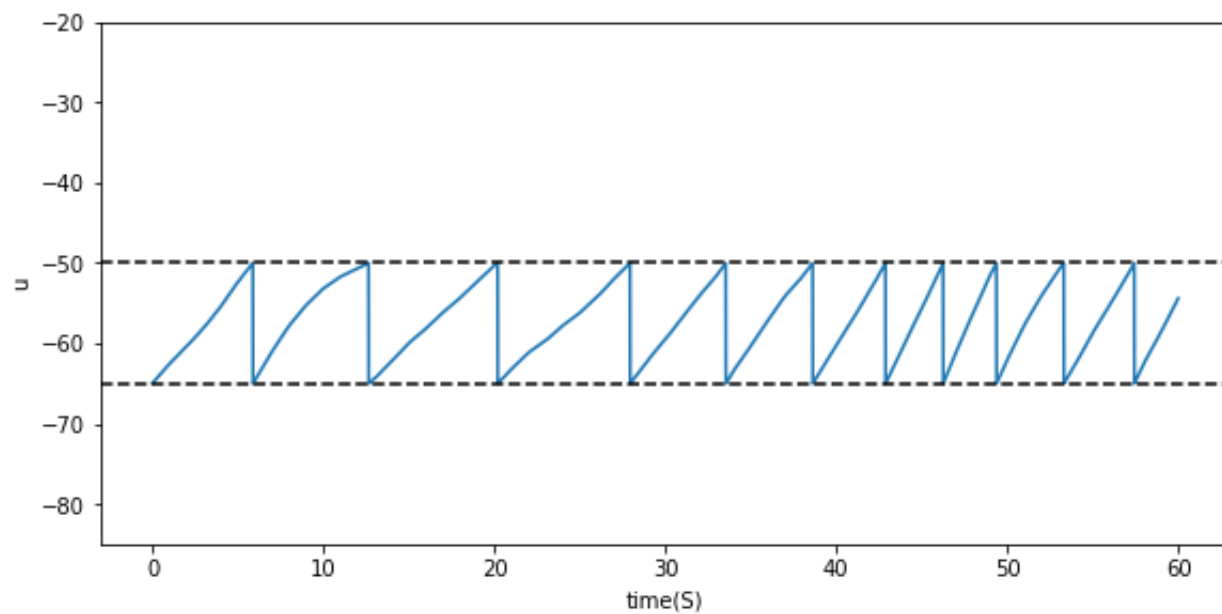
.4

$\tau = 20$, threshold = -50 , $u_{rest} = -60$, $R = 1$



.5

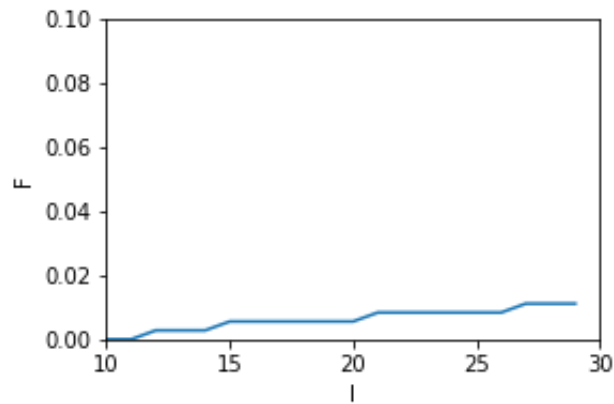
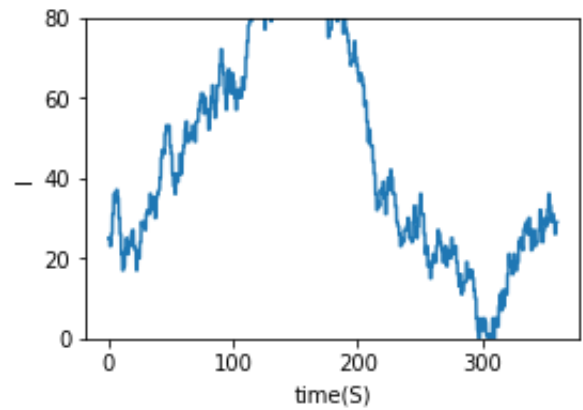
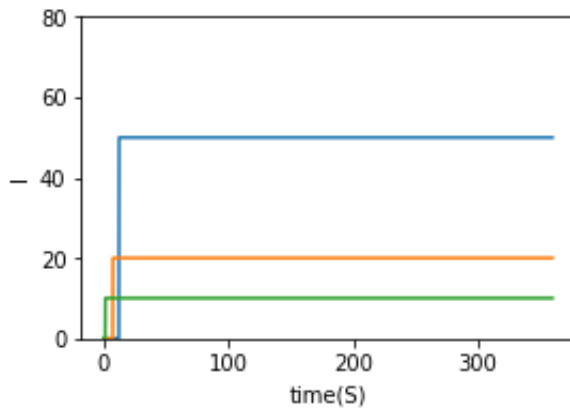
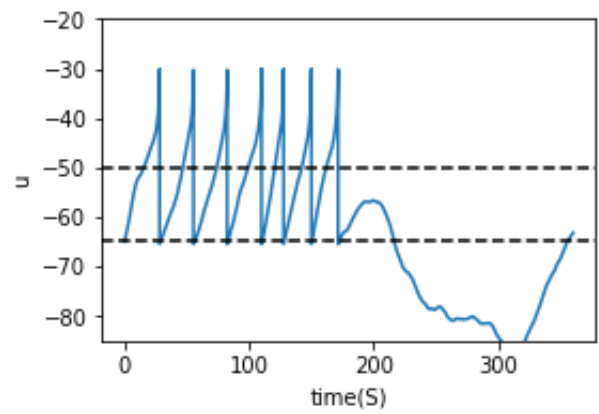
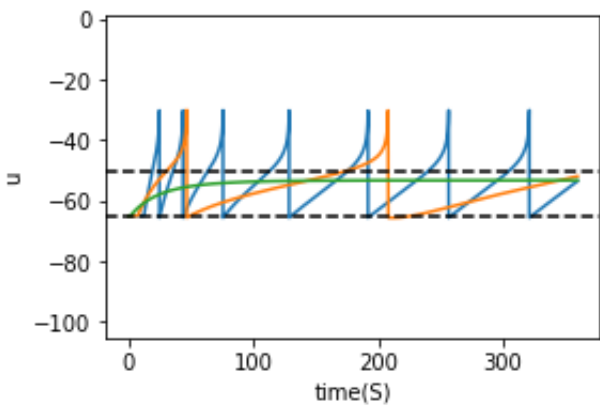
$\tau = 20$, threshold = -50 , $u_{rest} = -65$, $R = 2$



:AELIF

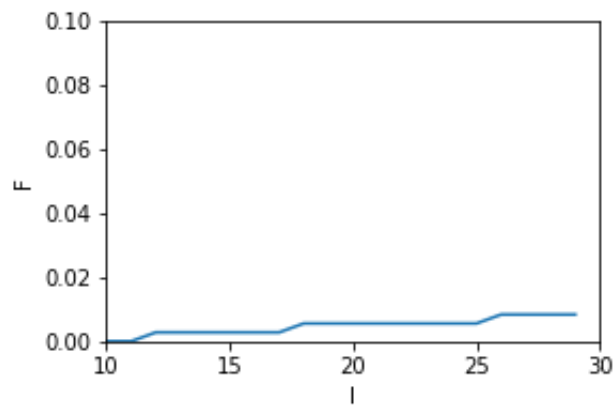
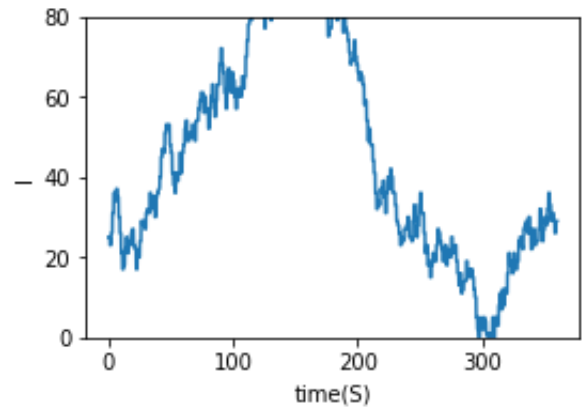
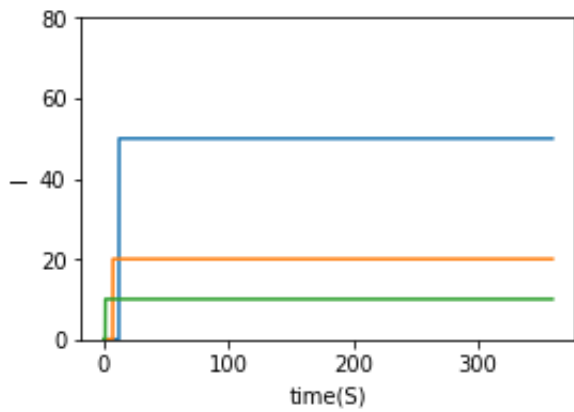
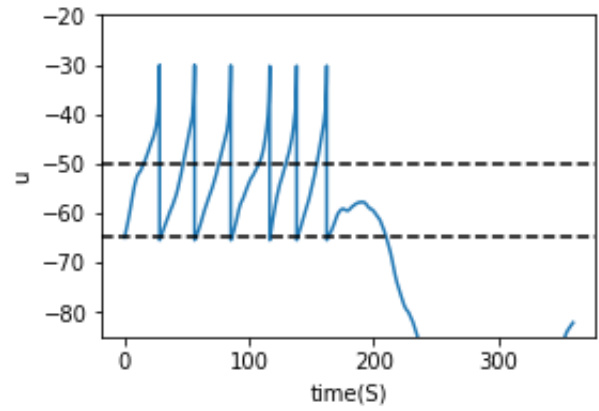
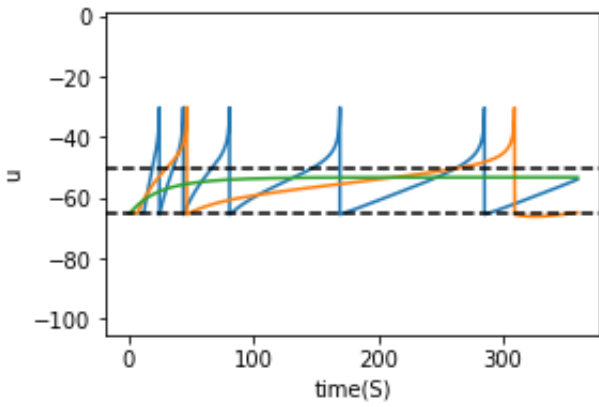
.1

```
tau = 20, firing_threshold = -50, reset_threshold = -30,  
sharpness= 4, u_rest = -65, R=1, a= 0, b=16, tau_w=144
```



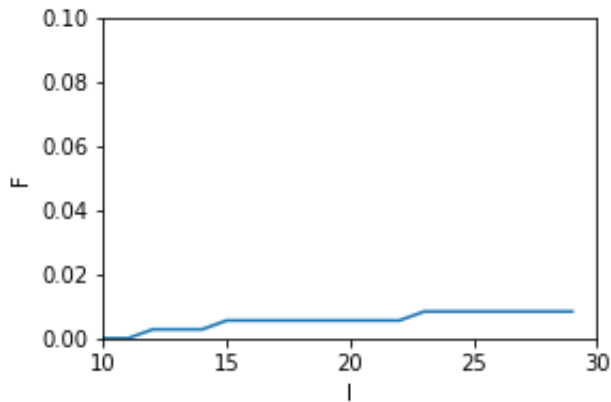
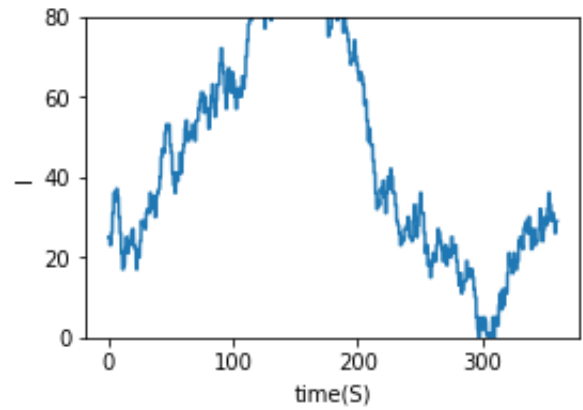
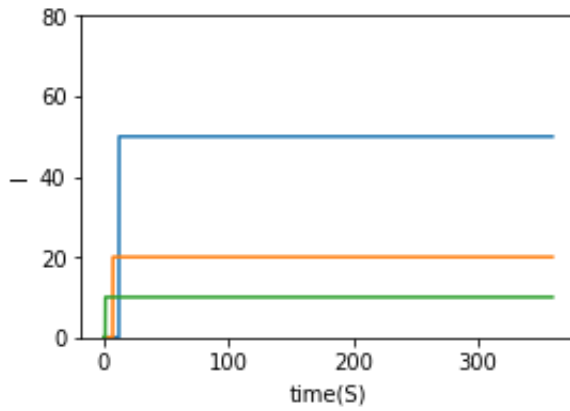
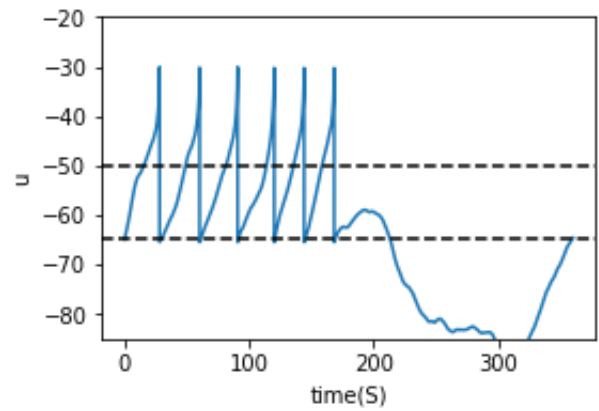
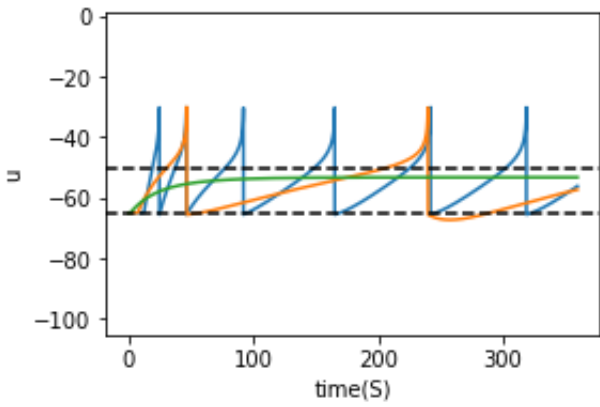
.2

$\tau = 20$, $\text{firing_threshold} = -50$, $\text{reset_threshold} = -30$,
 $\text{sharpness} = 4$, $u_{\text{rest}} = -65$, $R=1$, $a=0$, $b=16$, $\tau_w=288$



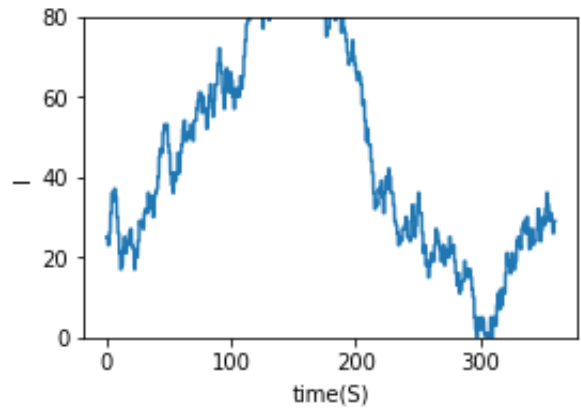
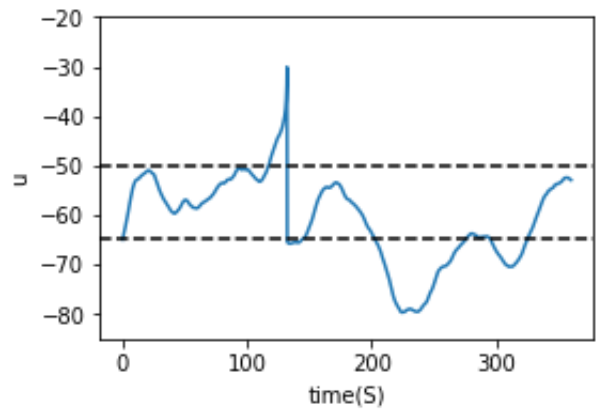
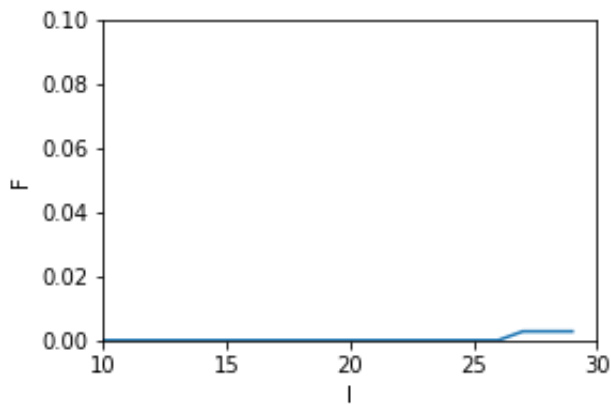
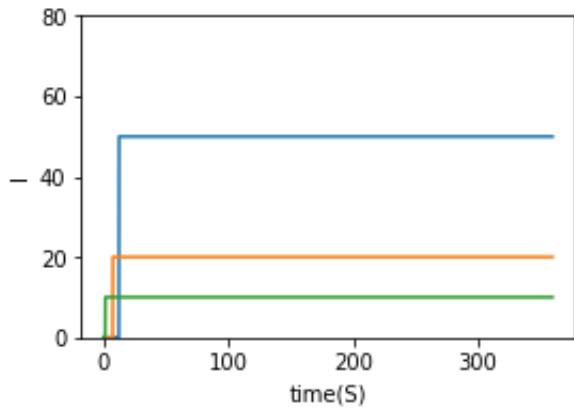
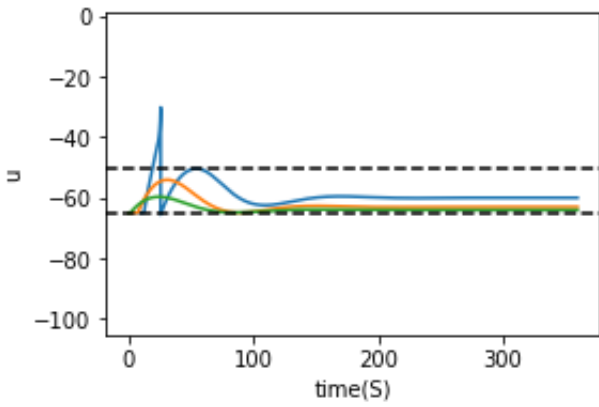
.3

$\tau = 20$, $\text{firing_threshold} = -50$, $\text{reset_threshold} = -30$,
 $\text{sharpness} = 4$, $u_{\text{rest}} = -65$, $R = 1$, $a = 0$, $b = 20$, $\tau_w = 144$



.4

`tau = 20, firing_threshold = -50, reset_threshold = -30,
sharpness= 4, u_rest = -65, R=1, a=9, b=16, tau_w=144`



.5

$\tau = 23$, $\text{firing_threshold} = -50$, $\text{reset_threshold} = -30$,
 $\text{sharpness} = 4$, $u_{\text{rest}} = -65$, $R = 1$, $a = 4$, $b = 8$, $\tau_w = 144$

