

Lab3

# Control

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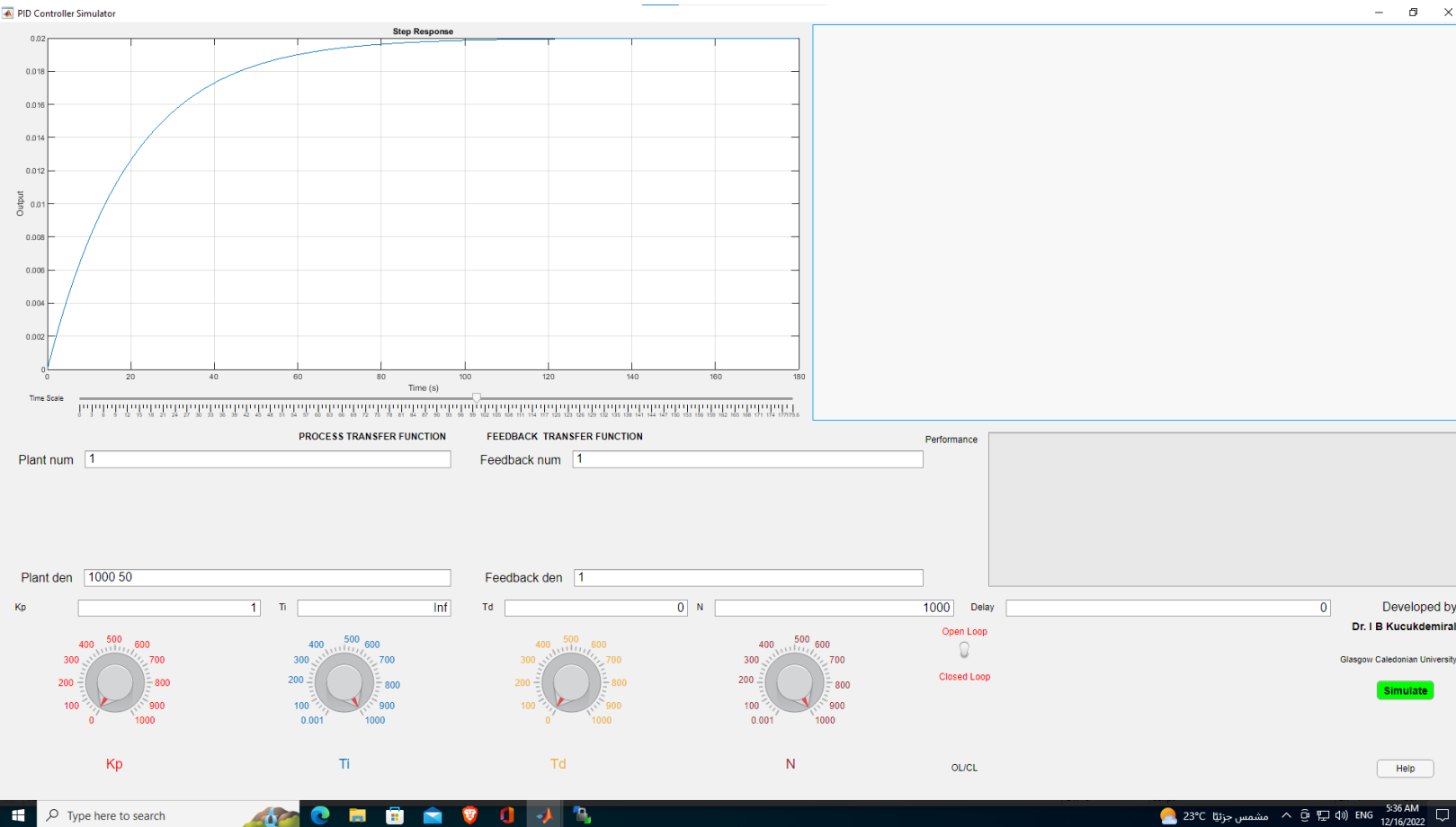
**Name:** Eslam Abdellatif Dyab

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**Section:** 7

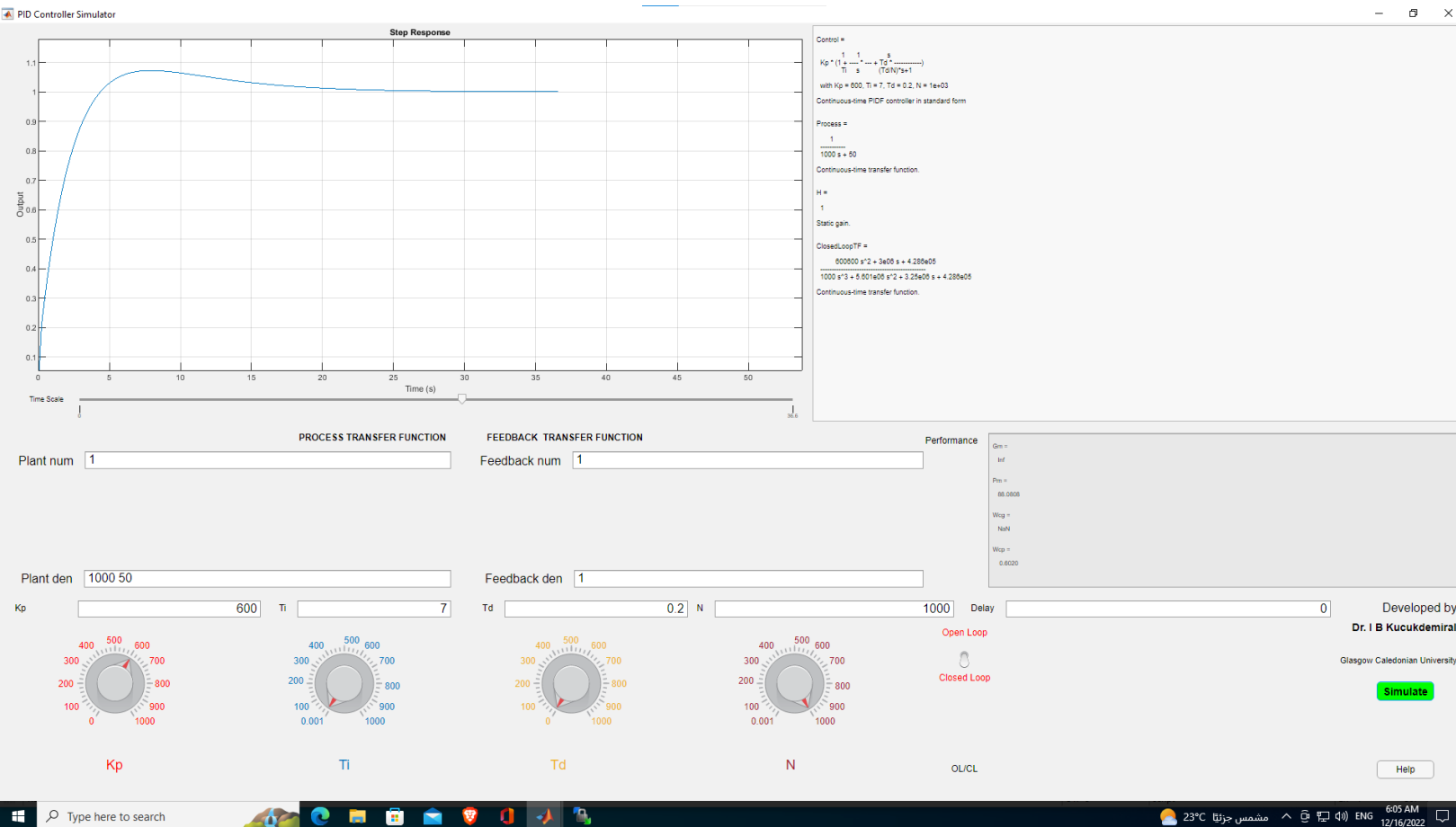
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# Open loop step response



# PID Simulator Controller

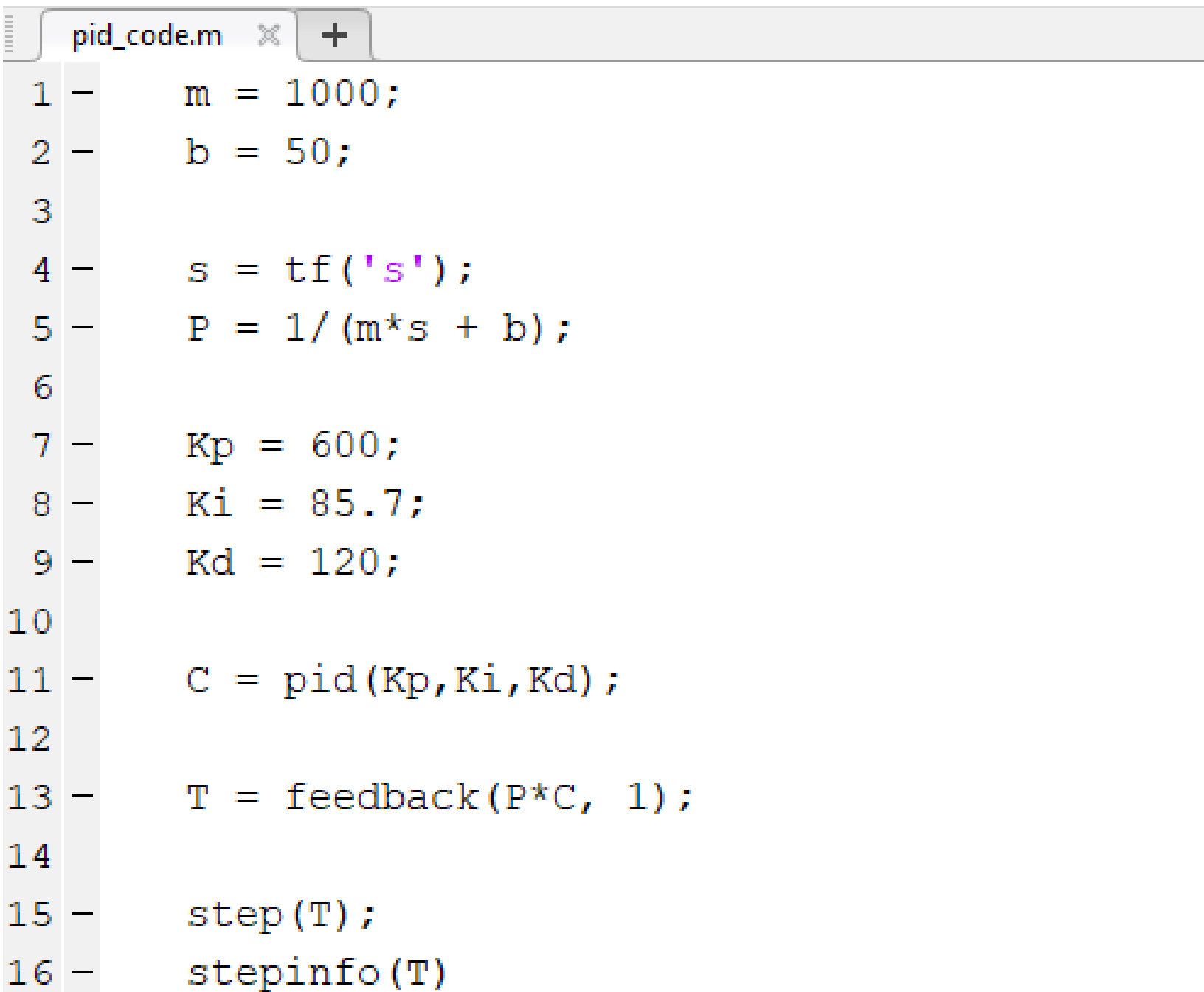
Kp=600, Ki=85.7, Kd=120



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## PID Matlab Code

Kp=600, Ki=85.7 ,Kd=120

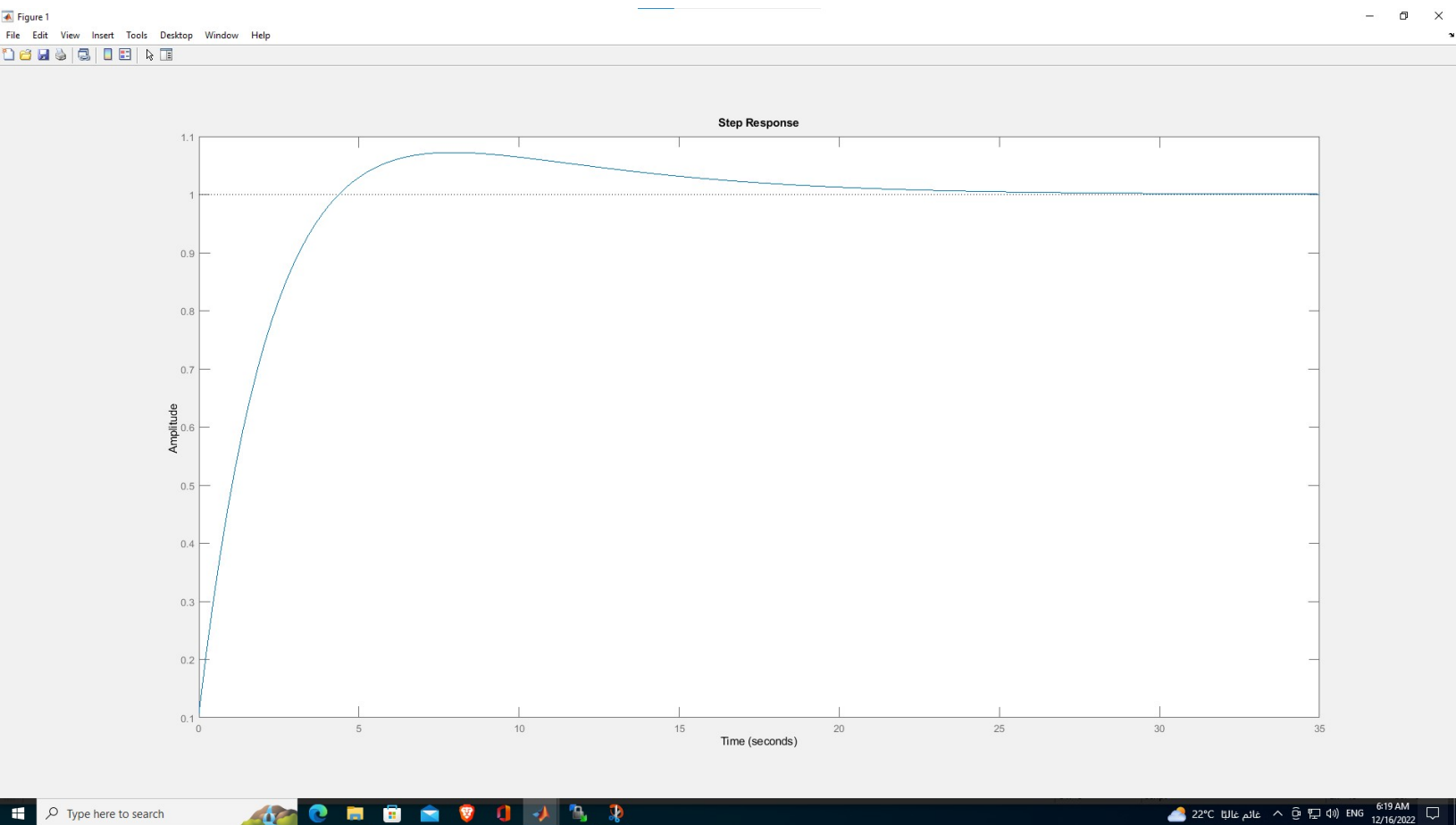
A screenshot of a MATLAB script editor window. The window has a title bar with a tab labeled 'pid\_code.m' and a close button. The script content is as follows:

```
1 - m = 1000;  
2 - b = 50;  
3  
4 - s = tf('s');  
5 - P = 1/(m*s + b);  
6  
7 - Kp = 600;  
8 - Ki = 85.7;  
9 - Kd = 120;  
10  
11 - C = pid(Kp,Ki,Kd);  
12  
13 - T = feedback(P*C, 1);  
14  
15 - step(T);  
16 - stepinfo(T)
```

## PID Matlab Code

$K_p=600$ ,  $K_i=85.7$ ,  $K_d=120$

Step response:



Step information:

```
Command Window
New to MATLAB? See resources for Getting Started.
struct with fields:

    RiseTime: 3.0302
    SettlingTime: 18.1697
    SettlingMin: 0.9291
    SettlingMax: 1.0724
    Overshoot: 7.2445
    Undershoot: 0
    Peak: 1.0724
    PeakTime: 7.9592

fx >>
```