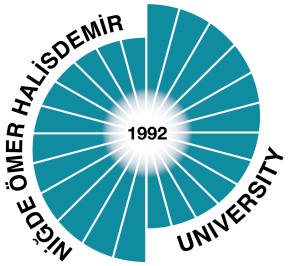

NİĞDE ÖMER HALİSDEMİR ÜNİVERSİTESİ

TBMYO

MEKATRONİK / ELEKTRİK VE OTOMASYON

BİLGİSAYAR DESTEKLİ KONTROL SİSTEMLERİ

ÖDEV 0

ALPEREN KAÇGAN

232406006

DANIŞMAN

ARŞ. GÖR. MEHMET CANEVİ

NİĞDE 2025

C: > Users > kacga > OneDrive > Masaüstü > alperen1.py

```python
import control as ctrl
import numpy as np
import matplotlib.pyplot as plt
# Transfer fonksiyonu tanimla
num=[5]#Pay
den=[1,0.05] #Payda
G_s=ctrl.tf(num,den)
print(G_s)

# ZOH yontemiyle z-duzlemine donustur
T=0.1 #Ornekleme suresi
G_z=ctrl.c2d (G_s, T, method='zoh')

print ("G(z)=",G_z)

# Surekli zaman basamak yaniti
t_s, y_s=ctrl.step_response(G_s)
plt.figure(1)
plt.plot(t_s, y_s, label='G(s)-Surekli Zaman')
#Ayrık zaman basamak yanıtı
t_z, y_z=ctrl.step_response(G_z)
plt.figure(2)
plt.stem(t_z,y_z,label='G(z)-Ayrik zaman',use_line_collection=True)

import numpy as np
import matplotlib.pyplot as plt
# Sürekli zaman (G(s))
t_s = np.linspace(0, 10, 100)
y_s = 100 * (1 - np.exp(-0.05 * t_s))
# Grafikleri çizdir
plt.figure(1)
plt.plot(t_s,y_s,label='G(s)')
plt.stem(t_z,y_z,label='G(z)',use_line_collection=True)
plt.xlabel('Zaman')
plt.ylabel('Cikis')
plt.legend()
plt.show()
```

```
PS C:\Users\kacga\OneDrive\Masaüstü\vscodee> python alperen1.py
<TransferFunction>: sys[0]
Inputs (1): ['u[0]']
Outputs (1): ['y[0]']


   5
--------
s + 0.05

G(z)= <TransferFunction>: sys[0]$sampled
Inputs (1): ['u[0]']
Outputs (1): ['y[0]']


 0.4988
---------
z - 0.995

dt = 0.1

Traceback (most recent call last):
  File "C:\Users\kacga\OneDrive\Masaüstü\vscodee\alperen1.py", line 23, in <module>
    plt.stem(t_z,y_z,label='G(z)-Ayrik zaman',use_line_collection=True)
    ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
TypeError: stem() got an unexpected keyword argument 'use_line_collection'
PS C:\Users\kacga\OneDrive\Masaüstü\vscodee>
```

Buradaki hatayı çözemedim nedenini bulamadım.