The Python Control Systems Library is a Python package that implements basic operations for analys systems.

To install this library uese bellow command:

```
pip install control
```

Now that we have the control library installed, it should be imported:

```
import control as co
```

```
import numpy as np
import matplotlib.pyplot as plt
```

There are several ways to define the system's model. For example we can use tf function which gets t coefficients:

$$\frac{2s+3}{s^2+3s+5}$$

```
sys = co.tf([2,3],[1,3,5])
```

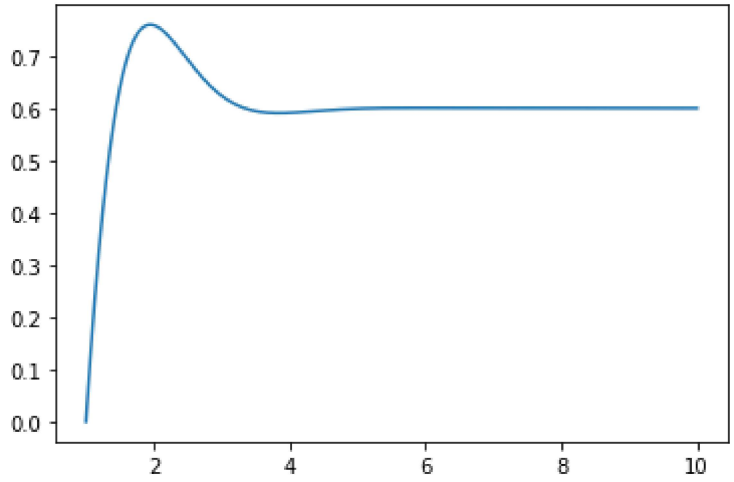
Here we define t for plotting porpous. Then use several different functions to plot step-response, root· mentioned transfer function:

```
t = np.linspace(1, 10, 1000)
```

```
t1, y1 = co.step_response(sys, t)

plt.plot(t1, y1)
plt.grid
```

```
<function matplotlib.pyplot.grid>
```




```
co.bode_plot(sys, dB=True)
```

```
co.nyquist_plot(sys)
```

```
co.root_locus(sys)
```

Source: https://www.youtube.com/watch?v=fI9Q_haTnVI