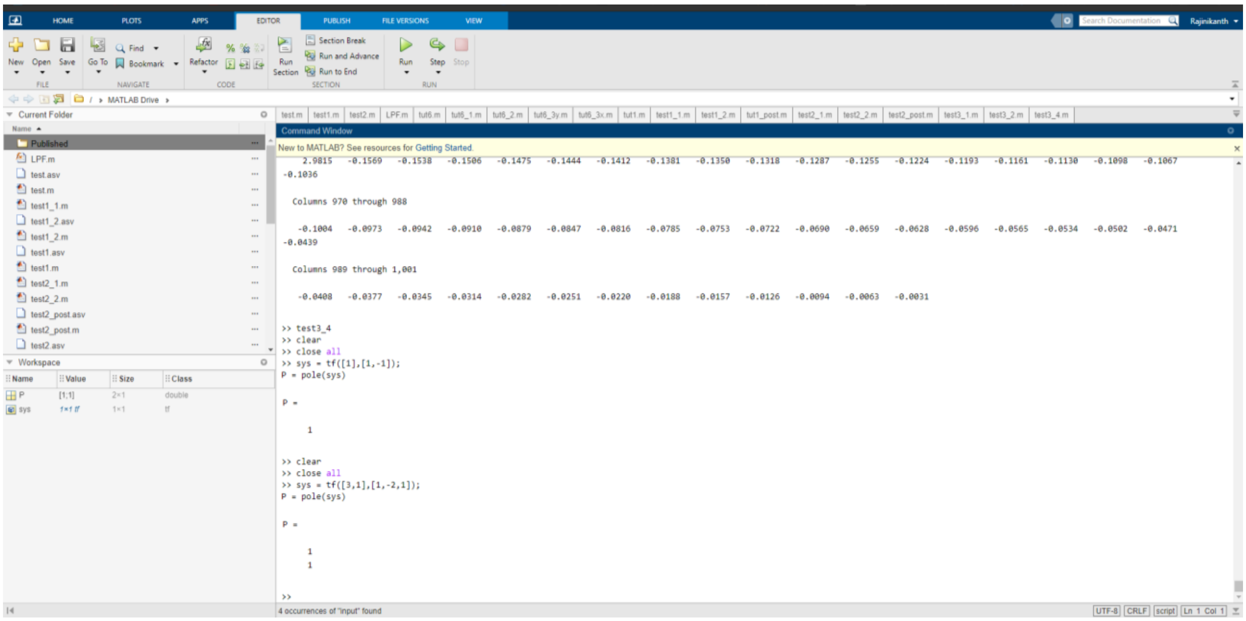
TUTORIAL-4

In-TUTORIAL:

1. Write a MATLAB program to find the poles of $X(z) = \dfrac{1}{1 - z}$
   (a) compute the poles
   (b) plot the pole-zero diagram

```
test3_4
clear
close all
sys = tf([1],[1,-1]);
P = pole(sys)
```

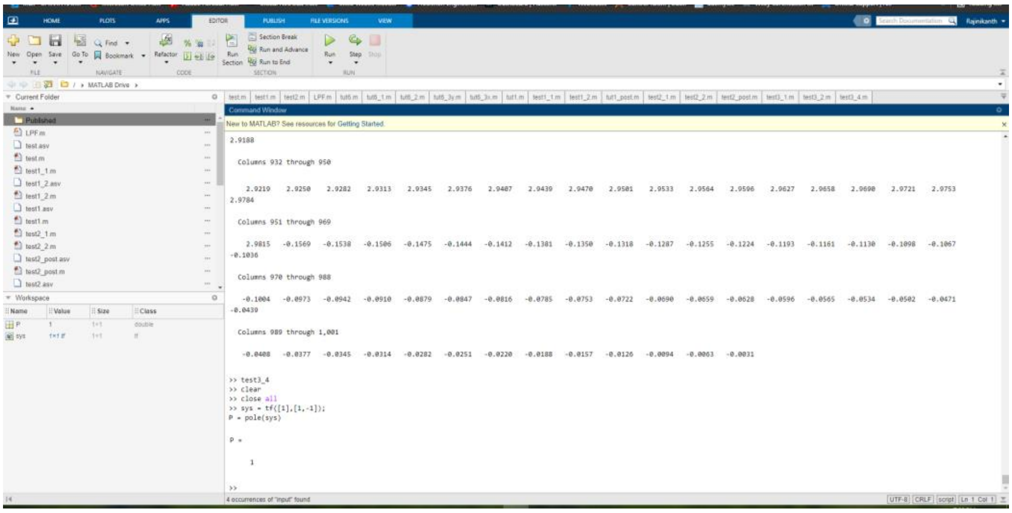


2. Write a MATLAB program to find the poles of $X(z) = \dfrac{1+3z}{1-2z+z^2}$

(a) compute the poles

(b) plot the pole-zero diagram

```
clear
close all
sys = tf([3,1],[1,-2,1]);
P = pole(sys)
```



Post-TUTORIAL:

1. Write a MATLAB program for plotting the pole-zero diagram of the transfer function:

$$X(z) = \frac{1}{1-2z+z^2}$$

(a) Compute the poles

(b) Plot the pole-zero diagram

(c) Comment on the stability of the system sys = tf([3,1],[1,-2,1]);

P = pole(sys)

plot(p)