

STATE SPACE AND TRANSFER FUNCTION

Activities MATLAB R2018b Wed 17:28

MATLAB R2018b

HOME PLOTS APPS EDITOR PUBLISH VIEW

New Script New Live Script New Open Find Files Import Data Save Workspace New Variable Open Variable Favorites Analyze Code Run and Time Clear Commands Simulink Layout Preferences Set Path Add-Ons Help Community Request Support Learn MATLAB

FILE VARIABLE CODE SIMULINK ENVIRONMENT RESOURCES

Current Folder: /home/manan/Desktop/College/Sem5/control-2/practical/tfss

exp1.m

```
1 num = [10 10];
2 den = [1 6 5 10];
3 [A,B,C,D] = tf2ss(num,den);
4 A
5 B
6 C
7 D
```

Workspace

Name	Value
A	$\begin{bmatrix} -6 & -5 & -10 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \end{bmatrix}$
ans	1
B	$\begin{bmatrix} 1 & 0 & 0 \\ 0 & 10 & 10 \\ 0 & 0 & 0 \end{bmatrix}$
C	$\begin{bmatrix} 0 & 10 & 10 \end{bmatrix}$
D	0
den	$[1 \ 6 \ 5 \ 10]$
num	$[10 \ 10]$

Command Window

New to MATLAB? See resources for [Getting Started](#).

```
>> exp1
A =
    -6    -5   -10
     1     0     0
     0     1     0

B =
     1
     0
     0

C =
     0    10    10

D =
     0
```

exp1.m (Script)

Activities MATLAB R2018b Wed 17:32

MATLAB R2018b

HOME PLOTS APPS EDITOR PUBLISH VIEW

New Script New Live Script New Open Find Files Import Data Save Workspace Open Variable Clear Workspace Favorites Run and Time Analyze Code Simulink Layout Preferences Set Path Add-Ons Help Community Request Support Learn MATLAB

FILE VARIABLE CODE SIMULINK ENVIRONMENT RESOURCES

Current Folder: /home/manan/Desktop/College/Sem5/control-2/practical/tfss

Editor: /home/manan/Desktop/College/Sem5/control-2/practical/tfss/exp2.m

```
1 - A = [0 1 0; 0 0 1; -5.008 -25.1026 -5.03247];
2 - B = [0; 25.04; 121.005];
3 - C = [1 0 0];
4 - D = [0];
5 - [num,den] = ss2tf(A,B,C,D)
6
```

Workspace

Name	Value
A	[0.1 0.0; 0.0 1.0; 0.0 0.0]
B	[0; 25.04; 121.005]
C	[1.0 0]
D	0
den	[1.5 0.3247]
num	[0.0 25.04]

Command Window

New to MATLAB? See resources for [Getting Started](#).

```
>> exp2
num =
    0    0    25.0400    247.0180
den =
    1.0000    5.0325    25.1026    5.0080
fs >>
```

exp1.m (Script)

Click and drag to move Editor...

POLE PLACEMENT

Activities MATLAB R2018b Fri 12:12

MATLAB R2018b

HOME PLOTS APPS

New Script New Live Script New Open Find Files Import Data Save Workspace New Variable Open Variable Favorites Analyze Code Run and Time Clear Commands Simulink Layout Preferences Set Path Add-Ons Help Community Request Support Learn MATLAB

FILE VARIABLE CODE SIMULINK ENVIRONMENT RESOURCES

/ > home > manan > Desktop > College > Sem5 > control-2 > sept > sept11

Command Window

New to MATLAB? See resources for [Getting Started](#).

```
>> A = [0 1 0; 0 0 1; -1 -5 -6]

A =

     0     1     0
     0     0     1
    -1    -5    -6

>> B = [0;0;1]

B =

     0
     0
     1

>> J = [-2 + j*4 -2-j*4 -10];
>> J

J =

    -2.0000 + 4.0000i    -2.0000 - 4.0000i   -10.0000 + 0.0000i

>> K = acker(A,B,J)

K =

    199     55     8

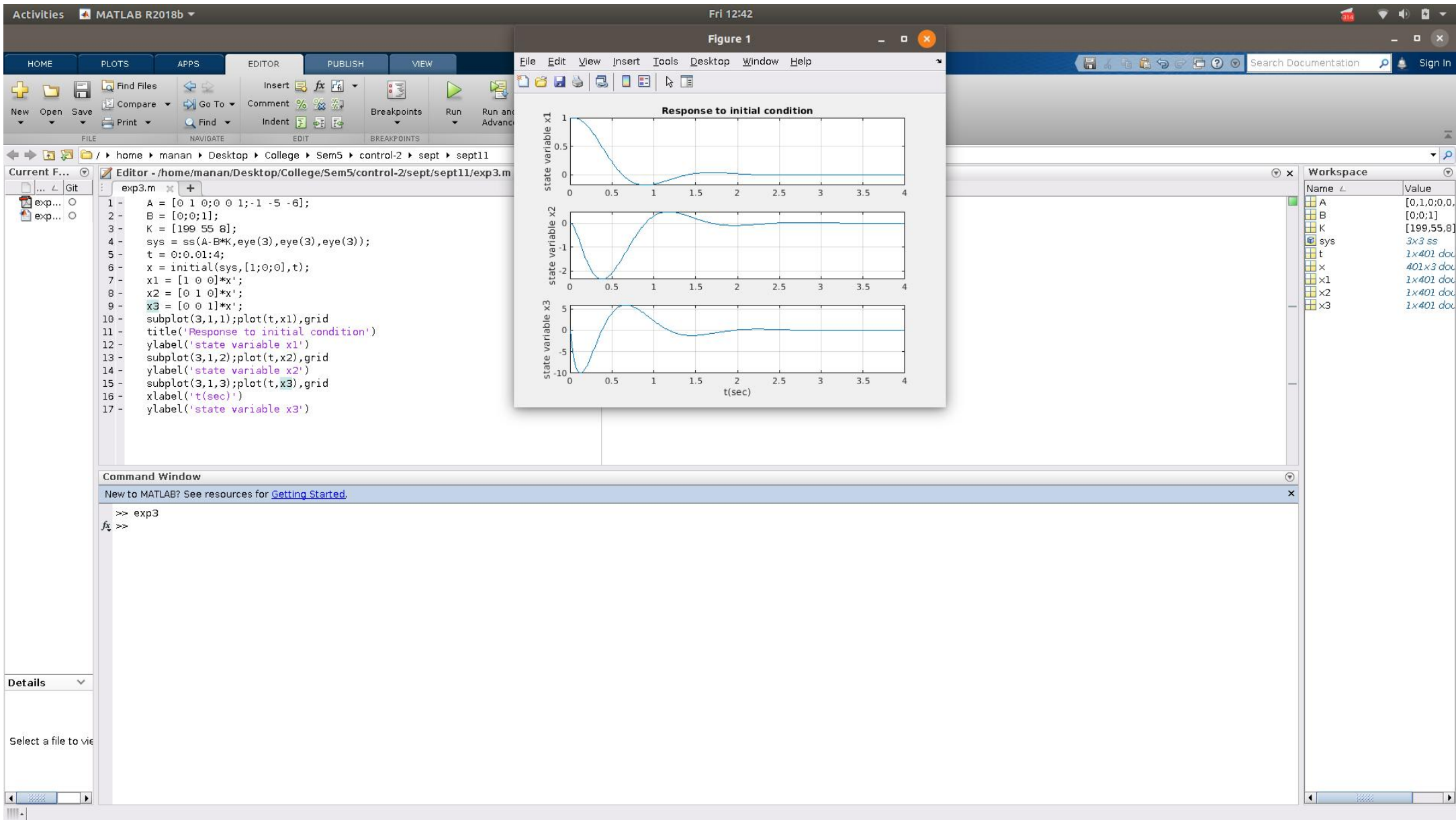
fx >> |
```

Workspace

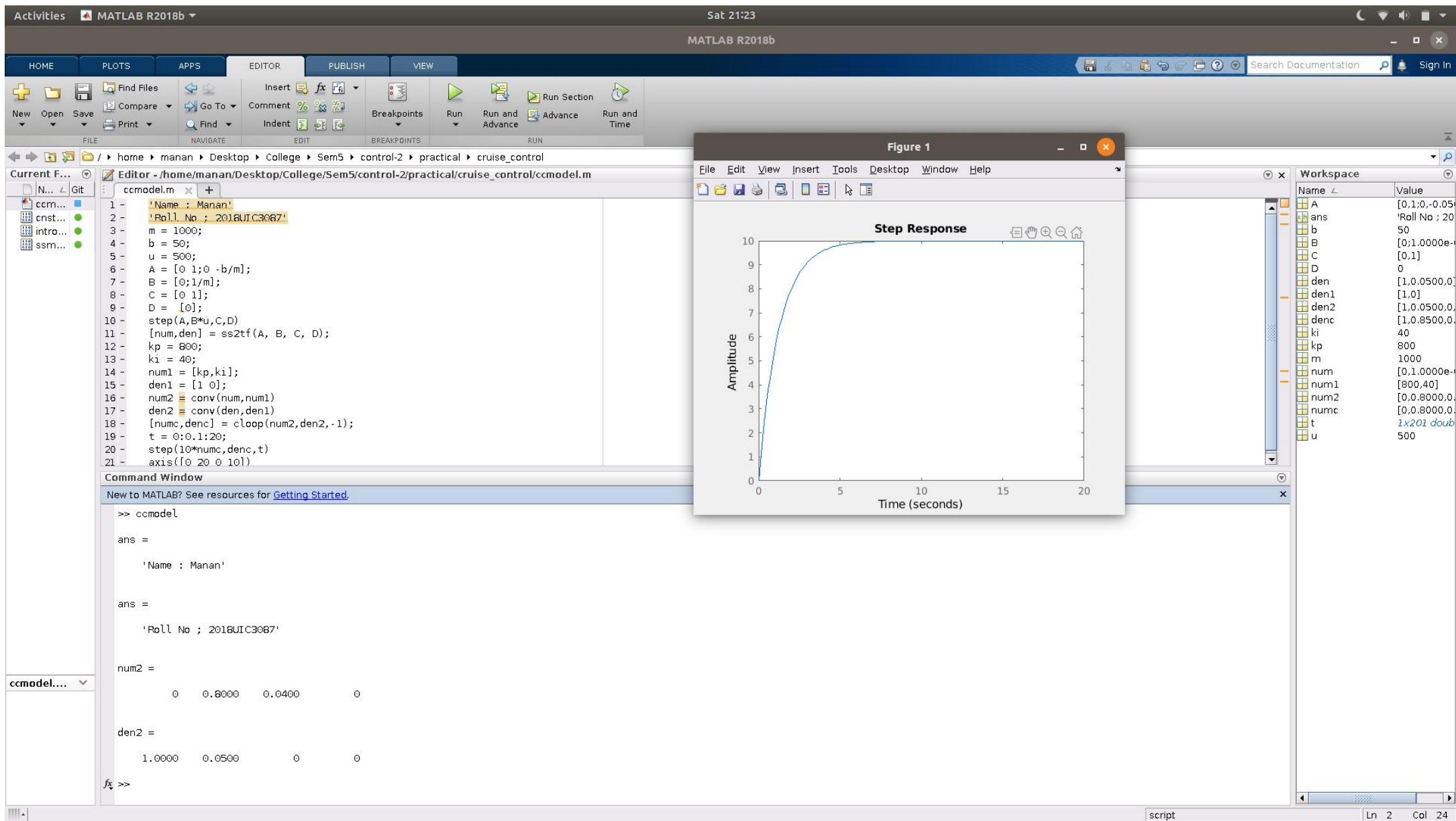
Name	Value
A	[0,1,0;0,0,1; -1,-5,-6]
B	[0;0;1]
J	[-2.0000 + 4.0000i, -2.0000 - 4.0000i, -10.0000 + 0.0000i]
K	[199,55,8]

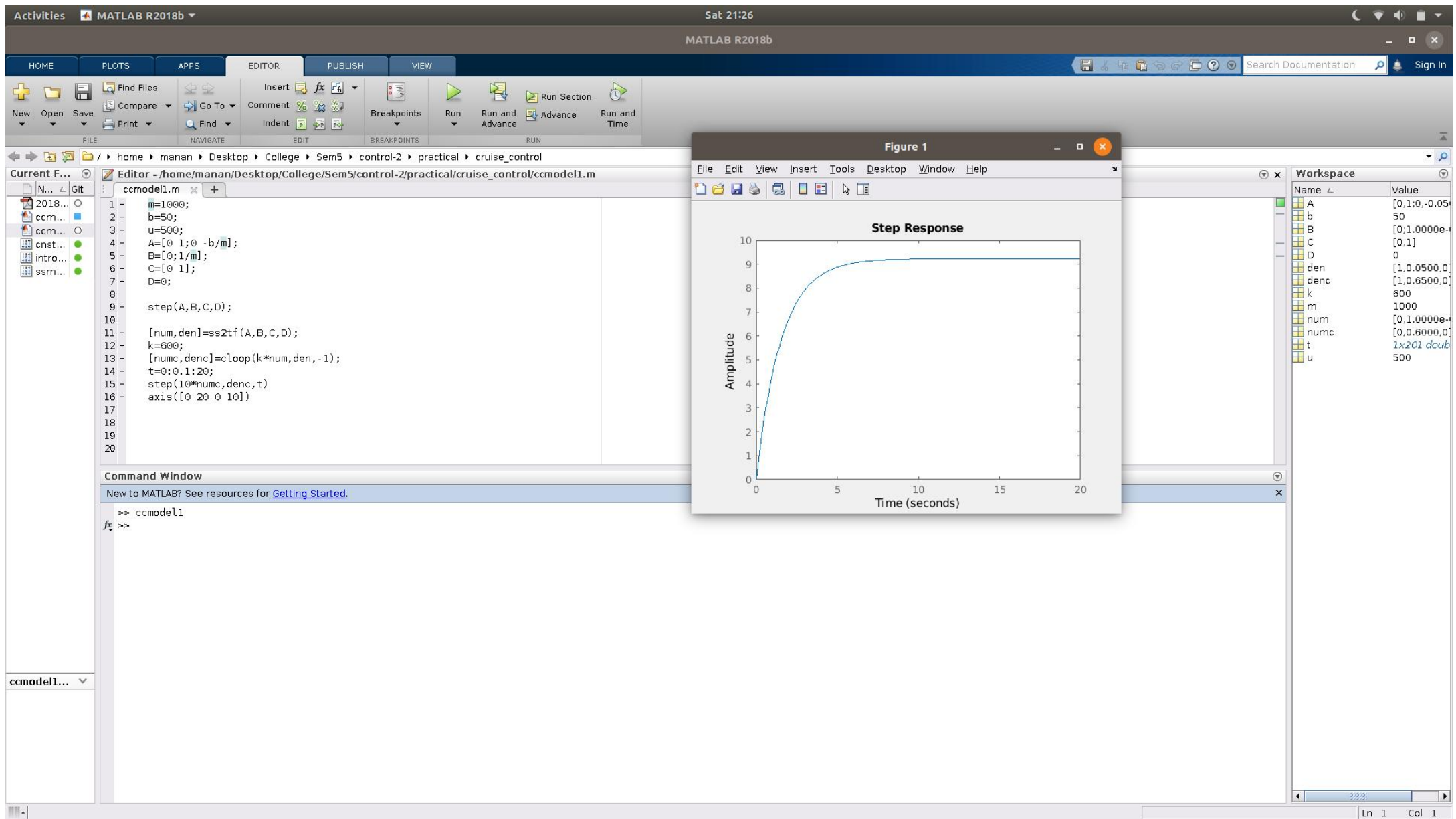
Details

Select a file to open

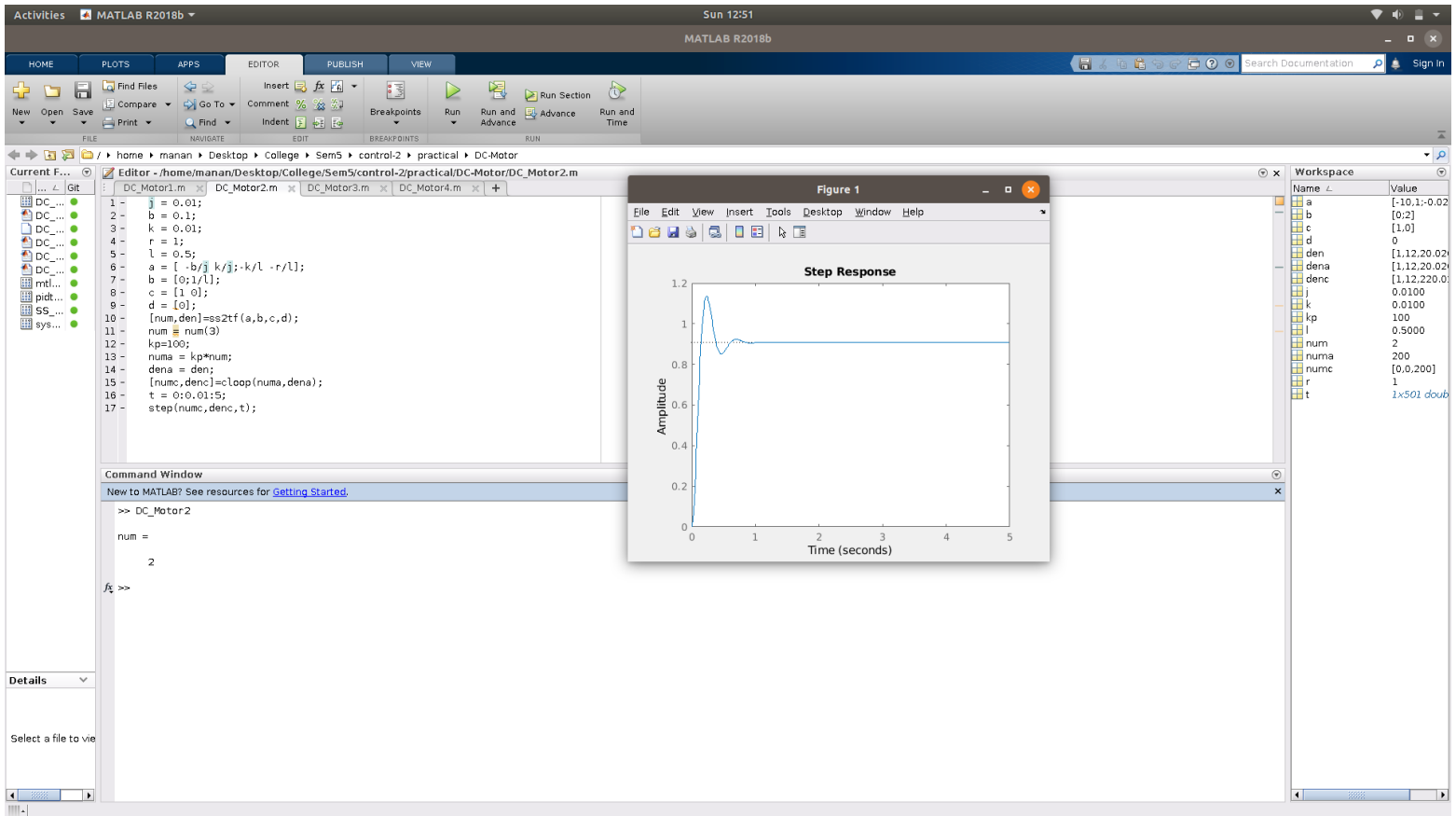


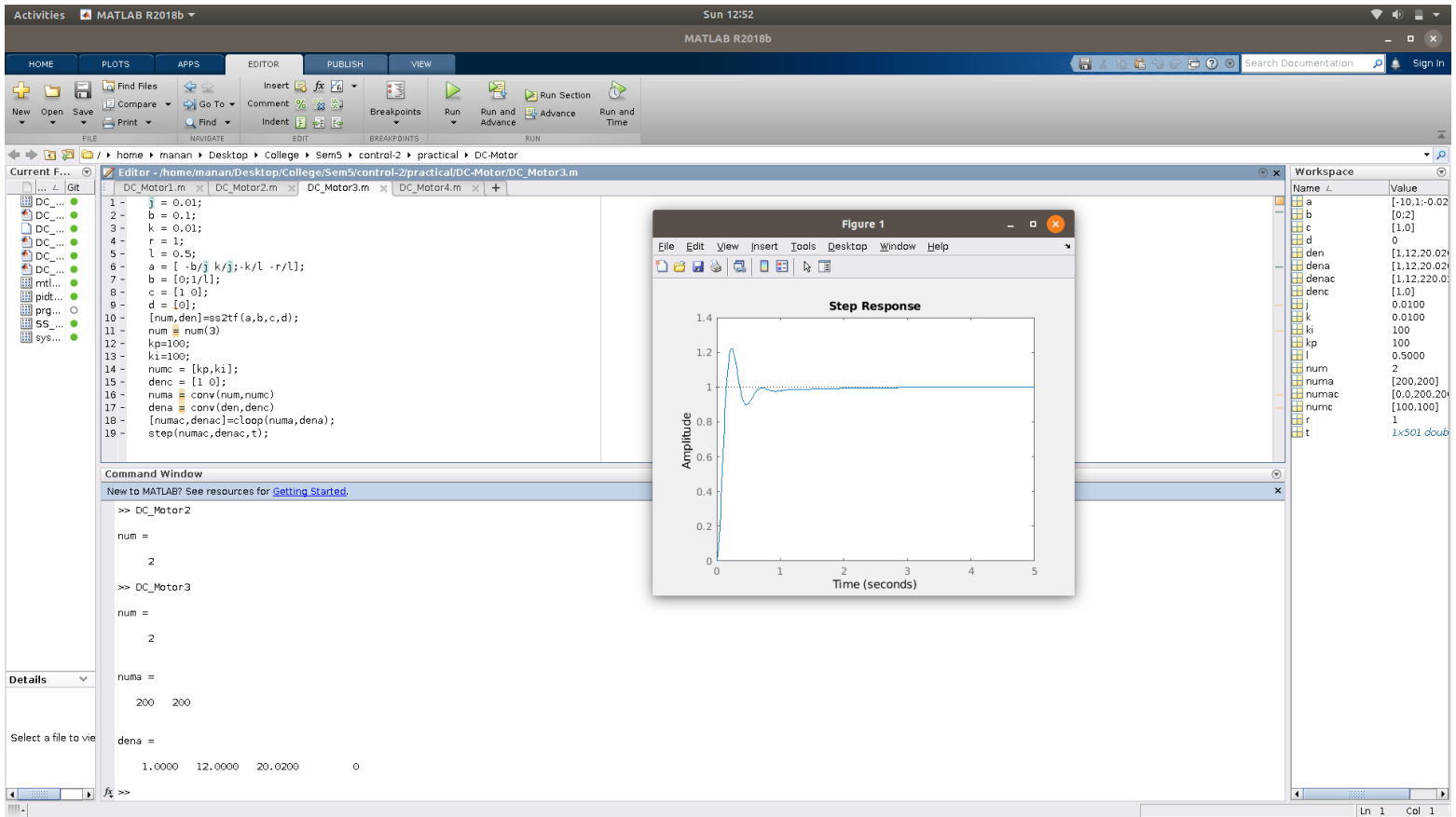
CRUISE CONTROL

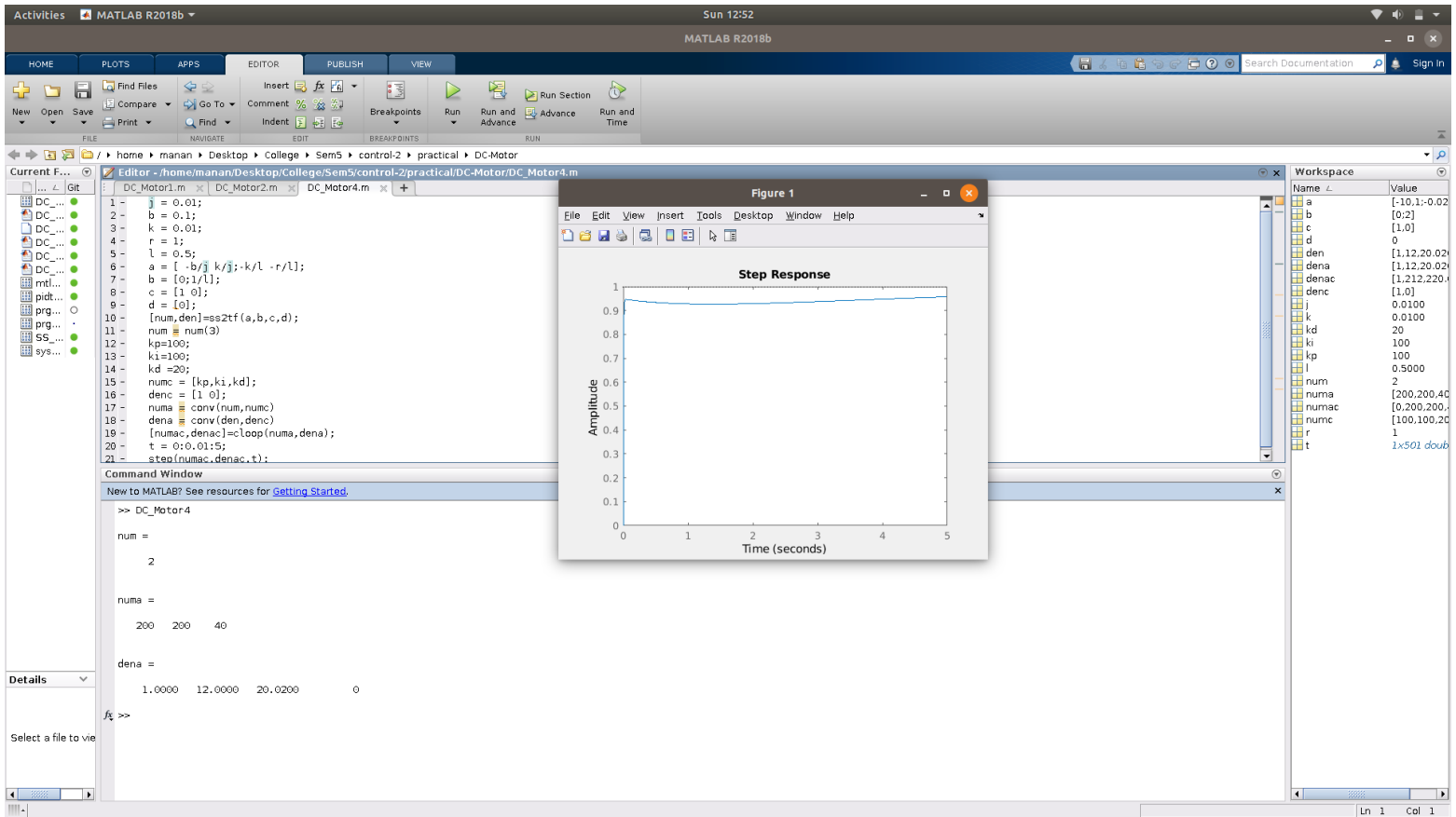




DC MOTOR







FREQUENCY DESIGN

