

MATLAB R2020a

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File Edit Breakpoints Run Run and Advance Run Section Advance Run and Time

Current Folder: C:\Program Files\Polyspace\R2020a\bin\win64

Workspace:

Name	Value
A	[0,1,0;0,1;-1,-5,-6]
B	[0;0;1]
J	[-2.0000 + 4.0000i,-2....
K	[199,55,8]

Command Window:

```
>> A=[0 1 0 ; 0 0 1; -1 -5 -6];  
>> B=[0; 0; 1];  
>> J=[-2+j*4 -2-j*4 -10];  
>> K=acker(A,B,J)  
  
K =  
  
    199    55     8  
fx >> |
```

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Editor - Untitled

```
1
```

Command Window

```
>> A=[0 1 0 ; 0 0 1; -1 -5 -6];
>> B=[0; 0; 1];
>> J=[-2+j*4 -2-j*4 -10];
>> K=place(A,B,J)

K =

    199.0000    55.0000     8.0000
```

Workspace

Name	Value
A	[0,1,0;0,1;-1,-5,-6]
B	[0;0;1]
J	[-2.0000 + 4.0000i,-2...
K	[199.0000,55.0000,8]

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Current Folder

Workspace

Name	Value
A	[0,1,0;0,1;-1,-5,-6]
B	[0;0;1]
J	[-2.0000 + 4.0000i,-2.0000 - 4.0000i]
K	[199,55,8]
sys	3x3 ss
t	1x401 double
x	401x3 double
x1	1x401 double
x2	1x401 double
x3	1x401 double

Command Window

```

>> A=[0 1 0 ; 0 0 1; -1 -5 -6];
>> B=[0; 0; 1];
>> K=[199 55 8];
>> sys=ss(A-B*K,eye(3),eye(3),eye(3));
>> t=0:0.01:4;
>> x=initial(sys,[1;0;0],t);
>> x=initial(sys,[1;0;0],t);
Error: Invalid expression. When calling the 'initial' function, check for mismatched
delimiters.

>> x=initial(sys,[1;0;0],t);
>> x1=[1 0 0]*x';
>> x2=[0 1 0]*x';
>> x3=[0 0 1]*x';
>> subplot(3,1,1);plot(t,x1),grid
>>

```

Figure 1

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Current Folder

zlib.dll
zlib.rights
zip.rights
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zarith.rights
xvz.ico
Xvstep30.dll
xvc.ico
xtstep30.dll
xsd_binder.dll
xrel_dmr.dll
xmlbrsc.dll
XmlParser_x64.dll
XmlParser_x64.dll
xmlcore.dll

Details

Workspace

Name	Value
A	[0,1,0;0,1;-1,-5,-6]
B	[0;0;1]
J	[-2.0000 + 4.0000i,-2...
K	[199,55,8]
sys	3x3 ss
t	1x401 double
x	401x3 double
x1	1x401 double
x2	1x401 double

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Command Window

```
>> A=[0 1 0 ; 0 0 1; -1 -5 -6];
>> B=[0; 0; 1];
>> K=[199 55 8];
>> sys=ss(A-B*K,eye(3),eye(3),eye(3));
>> t=0:0.01:4;
>> x=initial(sys[1:0:0],t);
>> x=initial(sys[1:0:0],t);
Error: Invalid expression. When calling a function,
delimiters.

>> x=initial(sys,[1:0:0],t);
>> x1=[1 0 0]*x';
>> x2=[0 1 0]*x';
>> x3=[0 0 1]*x';
>> subplot(3,1,1);plot(t,x1),grid
>> subplot(3,1,2);plot(t,x2),grid
>>
```

Figure 1

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Current Folder

zlib.dll
zlib.rights
zip.rights
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xvc.ico
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xsd_binder.dll
xrel_dmr.dll
xmlbrsc.dll
XmlParser_x64.dll
XmlParser_x64.dll
xmlcore.dll

Details

Workspace

Name	Value
A	[0,1,0;0,1;-1,-5,-6]
B	[0;0;1]
J	[-2.0000 + 4.0000i,-2...
K	[199,55,8]
sys	3x3 ss
t	1x401 double
x	401x3 double
x1	1x401 double
x2	1x401 double
x3	1x401 double

Editor - Untitled

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Command Window

```
>> A=[0 1 0 ; 0 0 1; -1 -5 -6];
>> B=[0; 0; 1];
>> K=[199 55 8];
>> sys=ss(A-B*K,eye(3),eye(3),eye(3));
>> t=0:0.01:4;
>> x=initial(sys[1:0;0],t);
>> x=initial(sys[1:0;0],t);
Error: Invalid expression. When calling a function,
delimiters must be balanced.

>> x=initial(sys,[1;0;0],t);
>> x1=[1 0 0]*x';
>> x2=[0 1 0]*x';
>> x3=[0 0 1]*x';
>> subplot(3,1,1);plot(t,x1),grid
>> subplot(3,1,2);plot(t,x2),grid
>> subplot(3,1,2);plot(t,x3),grid
fx >>
```

Figure 1

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File Edit Breakpoints Run Run and Advance Run Section Advance Run and Time

Current Folder: C:\Program Files\Polyspace\R2020a\bin\win64

Workspace:

Name	Value
A	[0,1,0;0,1,0;-2,-3]
B	[0;0;1]
J	[-2.0000 + 3.4641i,-2.0000 - 3.4641i]
K	[160.0000,54,11]
sys	3x3 ss
t	1x401 double
x	401x3 double
x1	1x401 double
x2	1x401 double

Command Window:

```
>> A=[0 1 0 ; 0 0 1; 0 -2 -3];
>> B=[0; 0; 1];
>> J=[-2+j*2*sqrt(3) -2-j*2*sqrt(3) -10];
>> J=[-2+j*2*sqrt(3) -2-j*2*sqrt(3) -10];
      ^
Error: Invalid expression. Check for missing multiplication operator, missing or unbalanced delimiters, or other syntax error. To construct matrices, use brackets instead of parentheses.

Did you mean:
>> J=[-2+j*2*sqrt(3) -2-j*2*sqrt(3) -10];
>> K=racker(A,B,J)

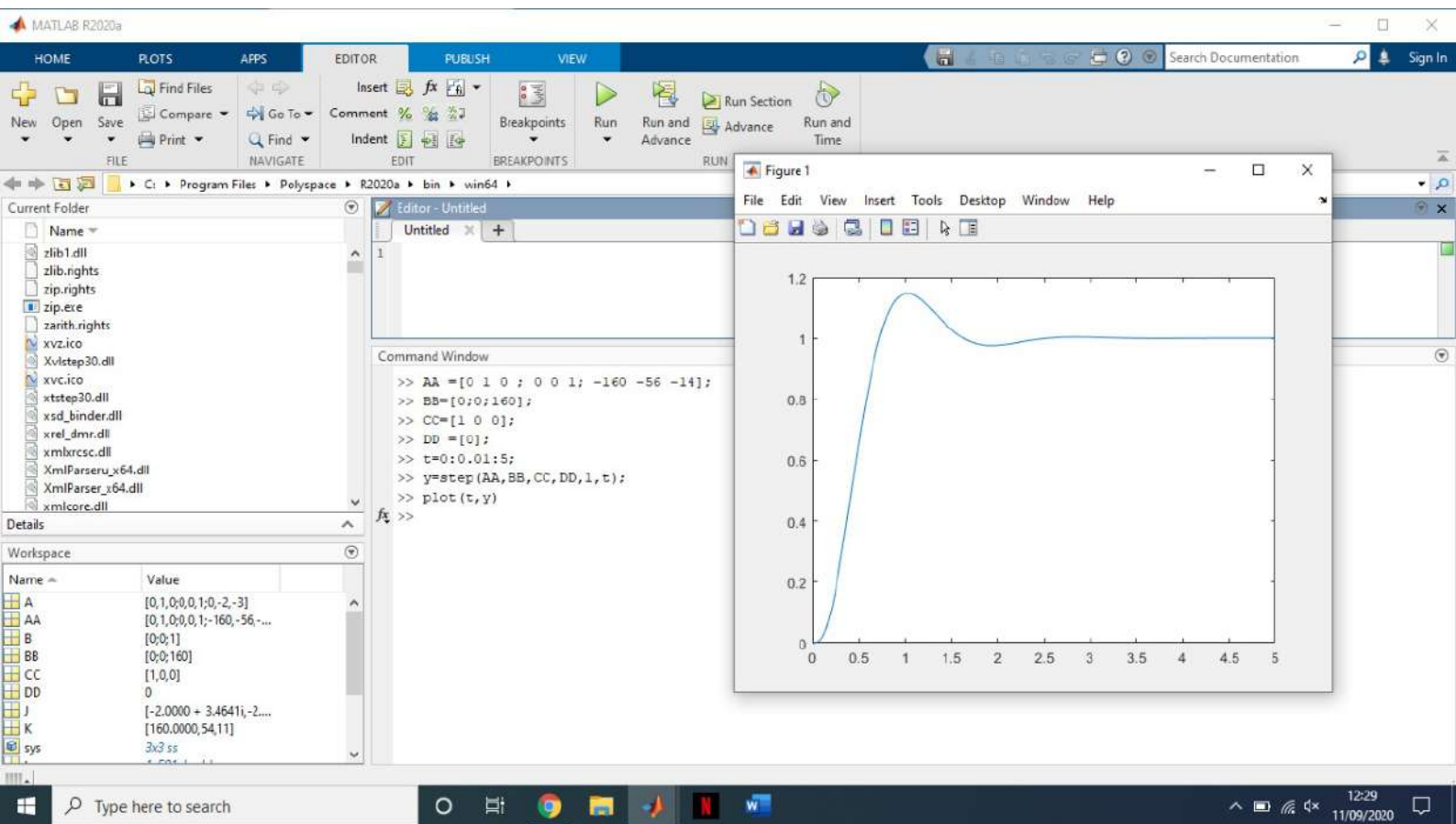
K =

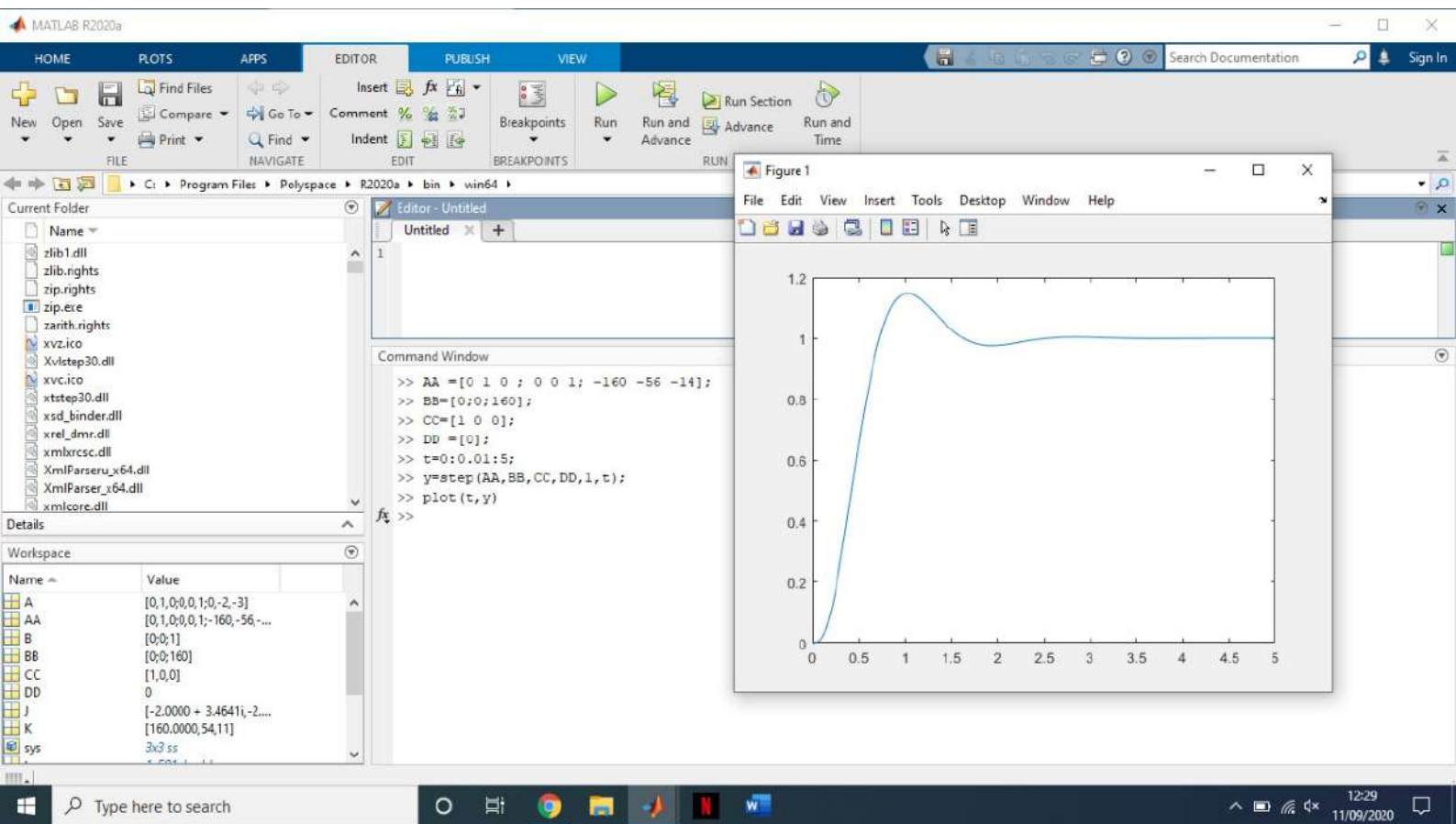
    160.0000    54.0000    11.0000

K>> |
```

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Current Folder

Details

Workspace

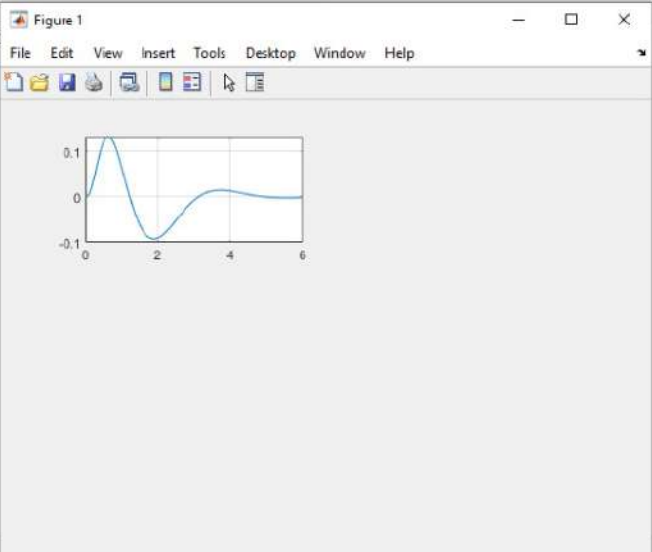
Editor - C:\Users\venig\bihil.m

```
1 - A=[0 1 0 0 ; 20.601 0 0 0 ; 0 0 0 1 ; -0.4905 0 0 0];
```

Command Window

```
>> A=[0 1 0 0 ; 20.601 0 0 0 ; 0 0 0 1 ; -0.4905 0 0 0];
B=[0;-1;0;0.5];
C=[0 0 1 0];
D=[0];
K=[-157.6336 -35.3733 -56.0652 -36.7466];
KI=-50.9684;
AA=[A - B*K B*KI; -C 0];
BB=[0;0;0;0;1];
CC=[C 0];
DD=[0];
t=0:0.02:6;
[y,x,t]=step(AA,BB,CC,DD,1,t);
x1=[1 0 0 0 0]*x';
subplot(3,2,1);
plot(t,x1);grid
```

Figure 1



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Current Folder

Workspace

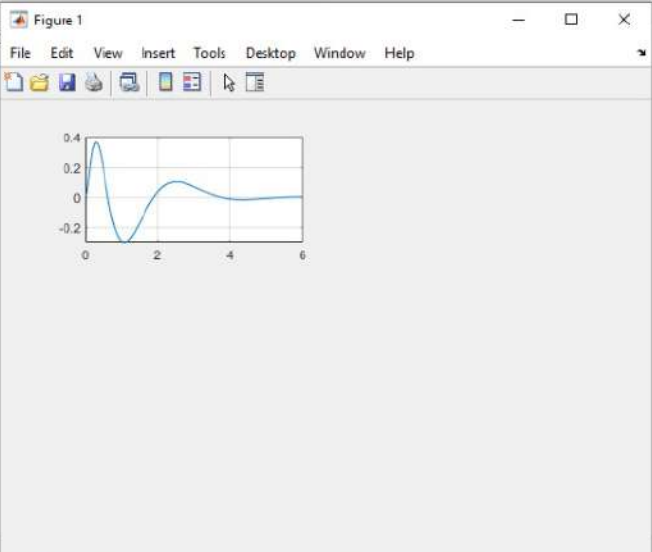
Editor - C:\Users\venig\bihl.m

```
1 - A=[0 1 0 0 ; 20.601 0 0 0 ; 0 0 0 1 ; -0.4905 0 0 0];
```

Command Window

```
>> A=[0 1 0 0 ; 20.601 0 0 0 ; 0 0 0 1 ; -0.4905 0 0 0];
>> B=[0;-1;0;0.5];
>> C=[0 0 1 0];
>> D=[0];
>> K=[-157.6336 -35.3733 -56.0652 -36.7466];
>> KI=-50.9684;
>> AA=[A - B*K B*KI;-C 0];
>> BB=[0;0;0;0;1];
>> CC=[C 0];
>> DD=[0];
>> t=0:0.02:6;
>> [y,x,t]=step(AA,BB,CC,DD,1,t);
>> x1=[1 0 0 0 0]*x';
>> subplot(3,2,1);
>> plot(t,x1);grid
>>
>> x2=[0 1 0 0 0]*x';
>> subplot(3,2,1);
>> plot(t,x2);grid
>>
```

Figure 1



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FILE NAVIGATE EDIT

Current Folder

Name

- zlib1.dll
- zlib.rights
- zip.rights
- zip.exe
- zarith.rights
- xvz.ico
- Xvstep30.dll
- xvc.ico
- xtstep30.dll
- xsd_binder.dll
- xrel_dmr.dll
- xmbrsc.dll
- XmlParser_x64.dll
- XmlParser_x64.dll
- xmlcore.dll

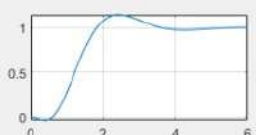
Details

Workspace

Name	Value
A	4x4 double
AA	5x5 double
B	[0;-1;0;0.5000]
BB	[0;0;0;1]
C	[0;0;1;0]
CC	[0;0;1;0]
D	0
DD	0
J	[-2.0000 + 3.4641i,-2.0000 - 3.4641i]

Figure 1

File Edit View Insert Tools Desktop Window Help



Command Window

```
bhil  
1 -  
Comman  
x1=  
subp  
plot  
  
>> x  
>> s  
>> E  
>> x  
>> s  
>> t  
Error  
Vect  
  
>> s  
>> t  
Error using plot  
Vectors must be the same length.  
  
>> x3=[0 0 1 0 0]*x';  
>> subplot(3,2,3);  
>> plot(t,x3);grid  
>> x3=[0 0 1 0 0]*x';  
>> subplot(3,2,3);  
>> plot(t,x3);grid  
fe >>
```

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FILE NAVIGATE EDIT

Current Folder

Name

- zlib1.dll
- zlib.rihts
- zip.rihts
- zip.exe
- zarith.rihts
- xvz.ico
- Xvstep30.dll
- xvc.ico
- xtstep30.dll
- xsd_binder.dll
- xrel_dmr.dll
- xmbrsc.dll
- XmlParser_x64.dll
- XmlParser_x64.dll
- xmlcore.dll

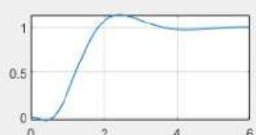
Details

Workspace

Name	Value
A	4x4 double
AA	5x5 double
B	[0;-1;0;0.5000]
BB	[0;0;0;1]
C	[0;0;1;0]
CC	[0;0;1;0;0]
D	0
DD	0
J	[-2.0000 + 3.4641i;-2.0000 + 3.4641i;-2.0000 + 3.4641i;-2.0000 + 3.4641i]

Figure 1

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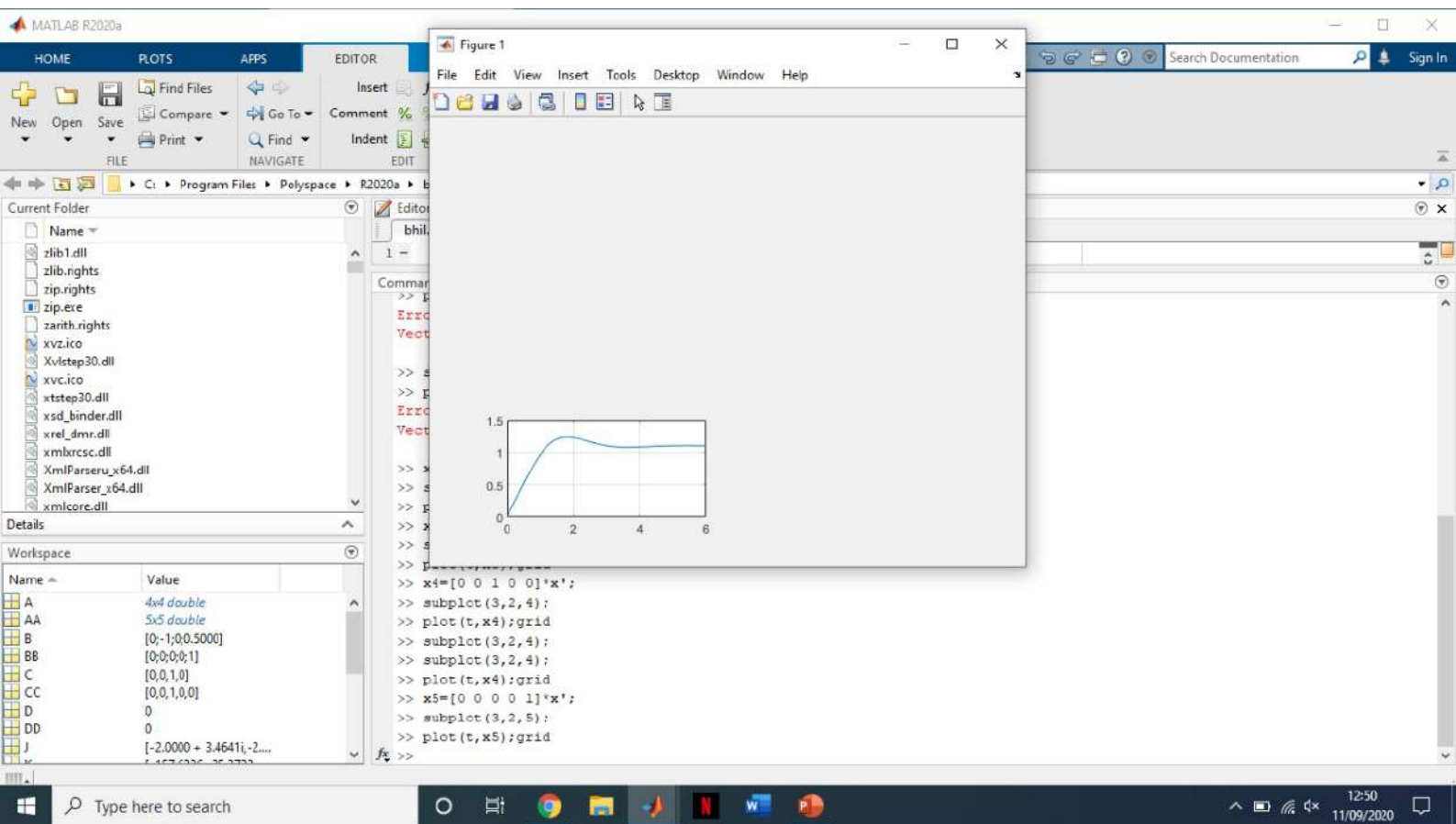
Command Window

```
>> x=[0 0 1 0 0]*x';  
>> subplot(3,2,3);  
>> plot(t,x3);grid  
>> x4=[0 0 1 0 0]*x';  
>> subplot(3,2,4);  
>> plot(t,x4);grid  
>> subplot(3,2,4);  
>> subplot(3,2,4);  
>> plot(t,x4);grid
```

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File Edit Breakpoints Run Run and Advance Run Section Advance Run and Time

Current Folder: C:\Program Files\Polyspace\R2020a\bin\win64

Workspace:

Name	Value
A	[0, 1; 20.6000, 0]
AA	[-16, 1; 93.6000, -3.6000]
B	[0; 1]
BB	[16; 84.6000]
C	[1, 0]
CC	[29.6000, 3.6000]
D	0
DD	0
den	[1, 19.6000, 151.2000]

Command Window:

```
>> A=[0 1;20.6 0];
B=[0;1];
C=[1 0];
K=[29.6 3.6];
Ke=[16;84.6];
AA=A-Ke*C-B*K;
BB=Ke;
CC=K;
DD=0;
[num,den]=ss2tf(AA,BB,CC,DD);
>> [num,den]=ss2tf(AA,BB,CC,DD)

num =

1.0e+03 *

    0    0.7782    3.6907

den =

1.0000    19.6000   151.2000

fx >> |
```

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