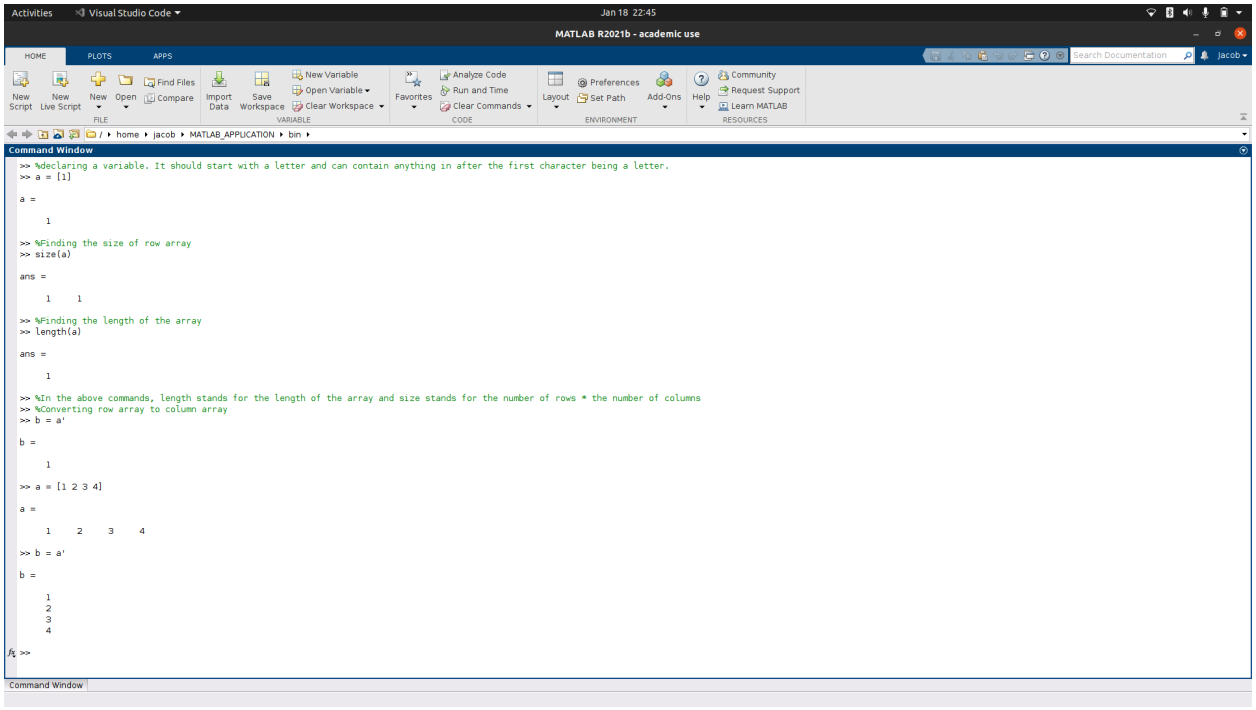
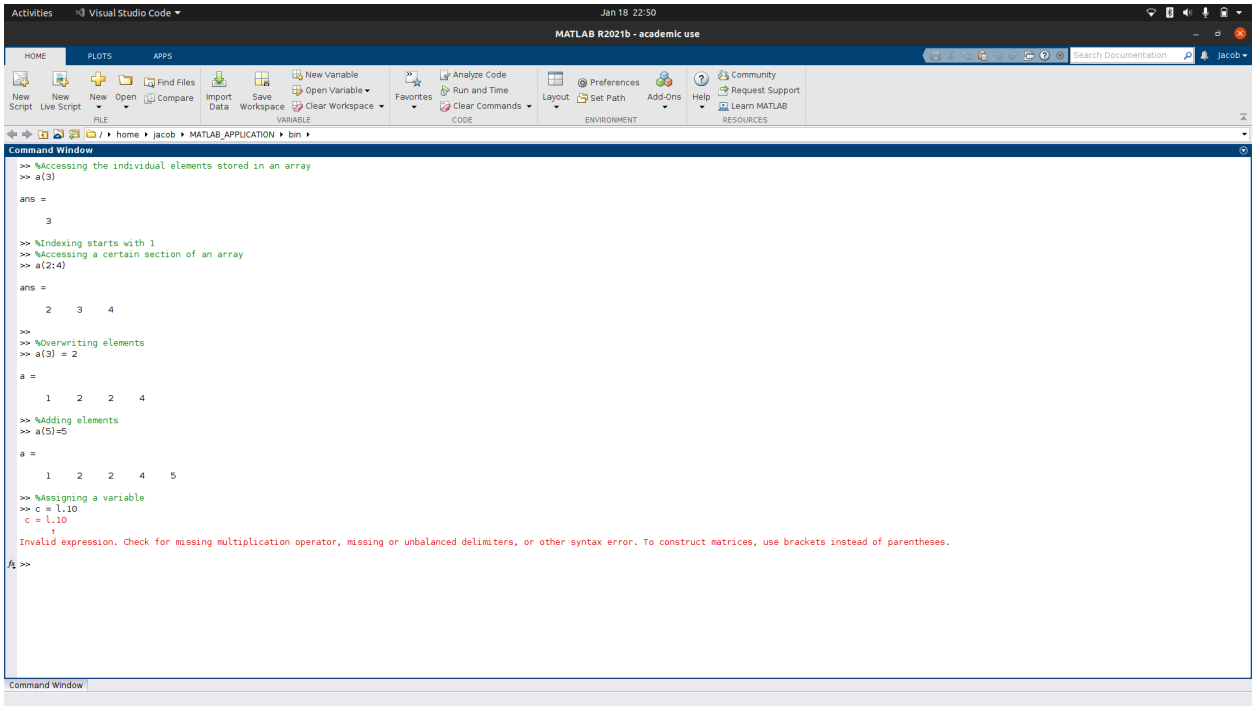
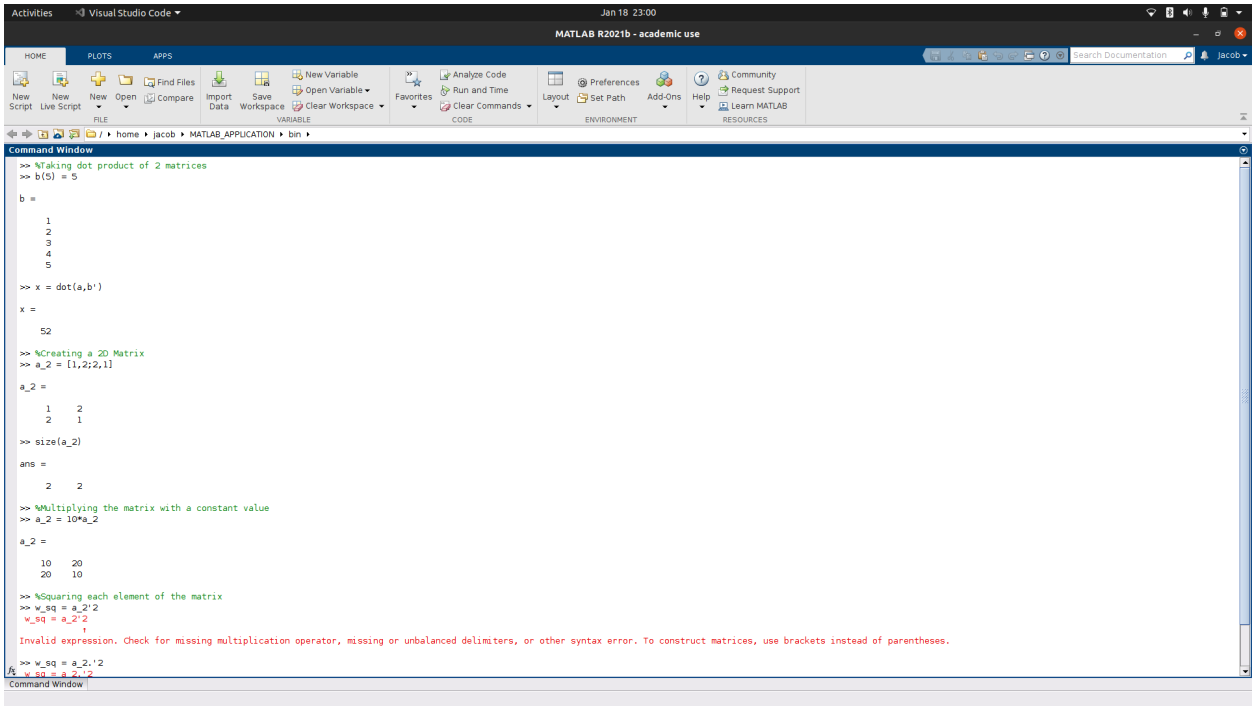
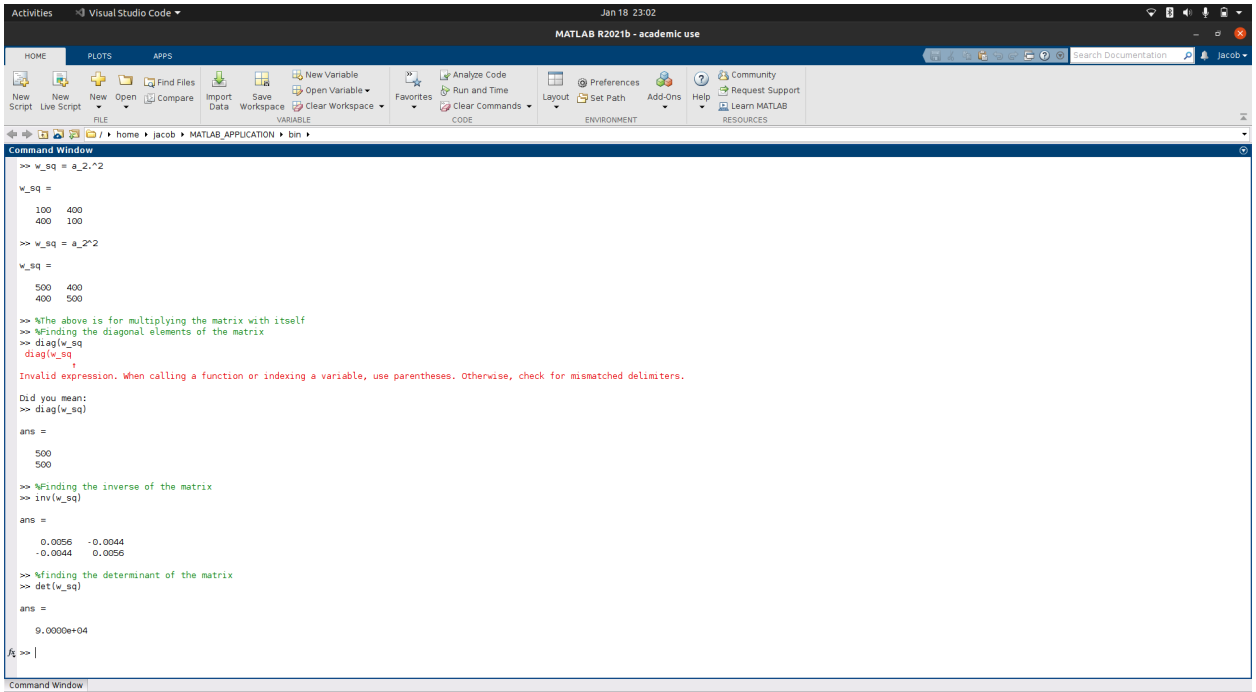
Name : JACOB V SANOJ

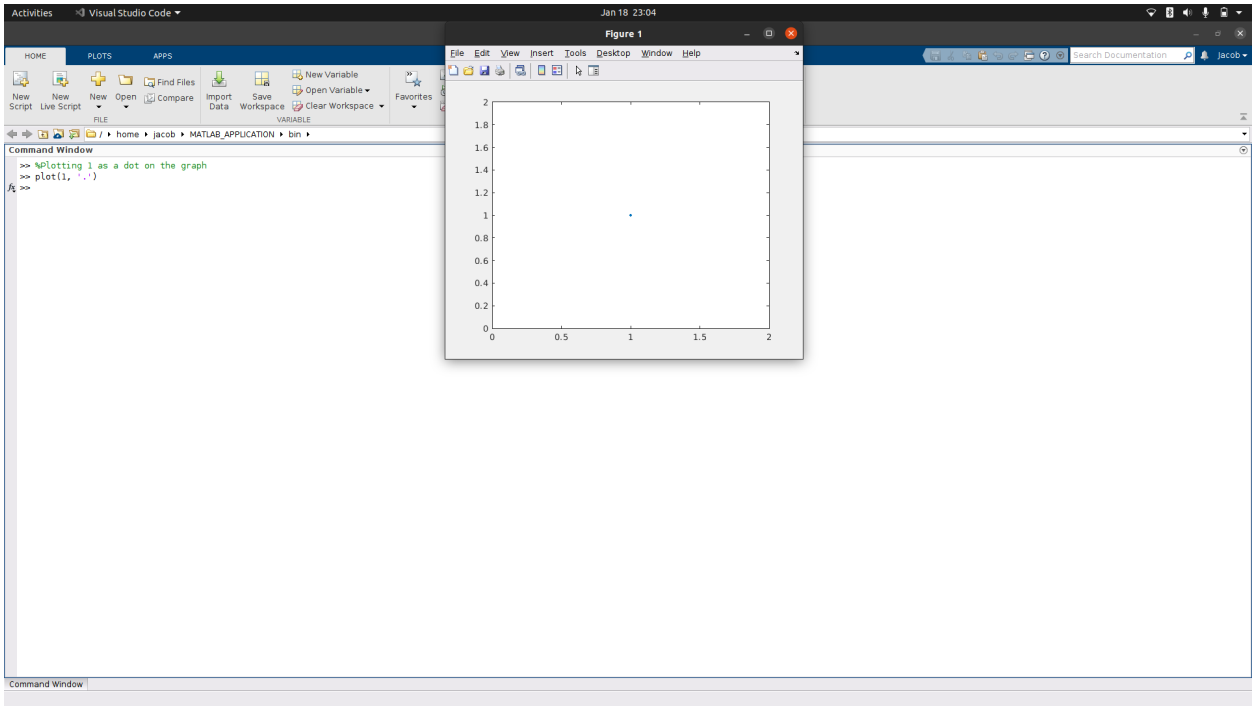
SRN : PES1UG20EC083

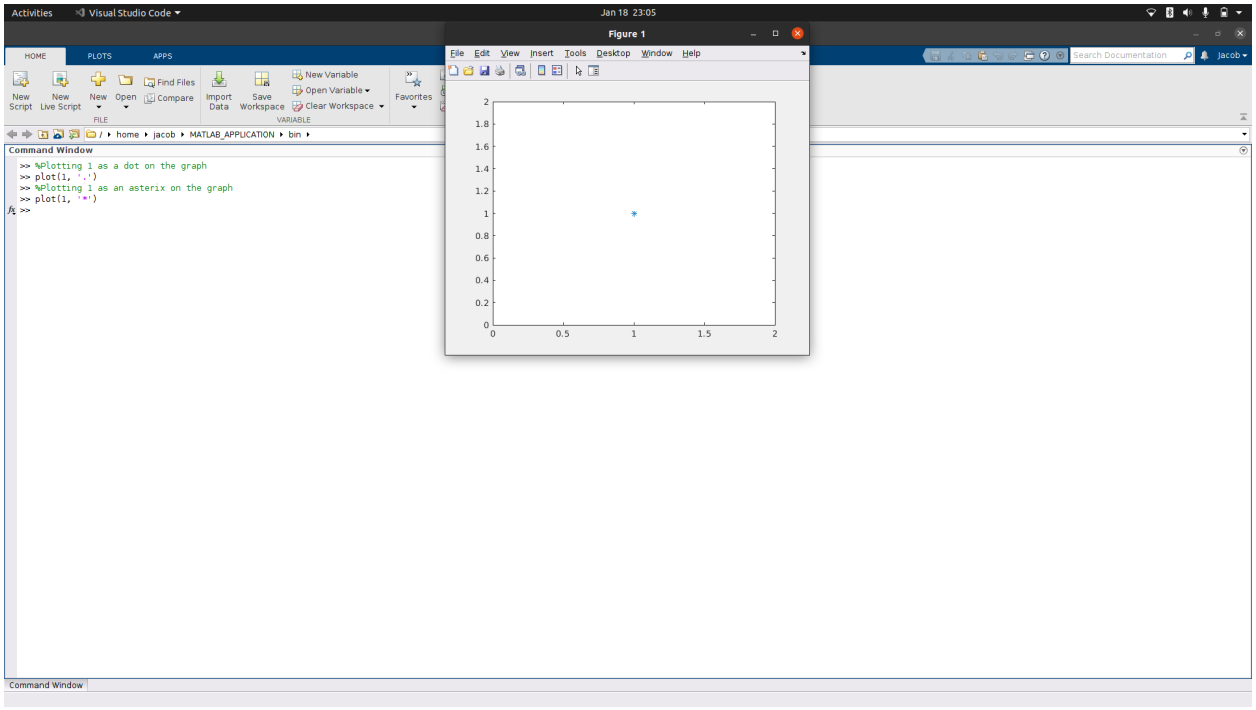


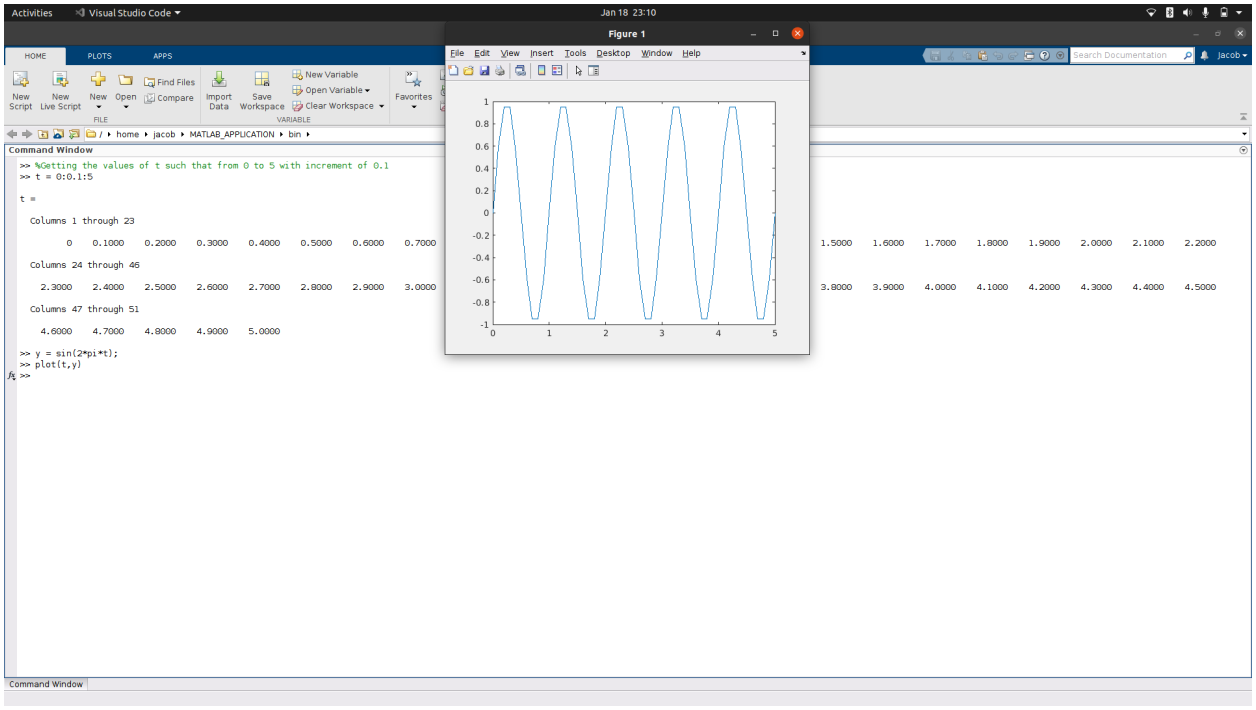


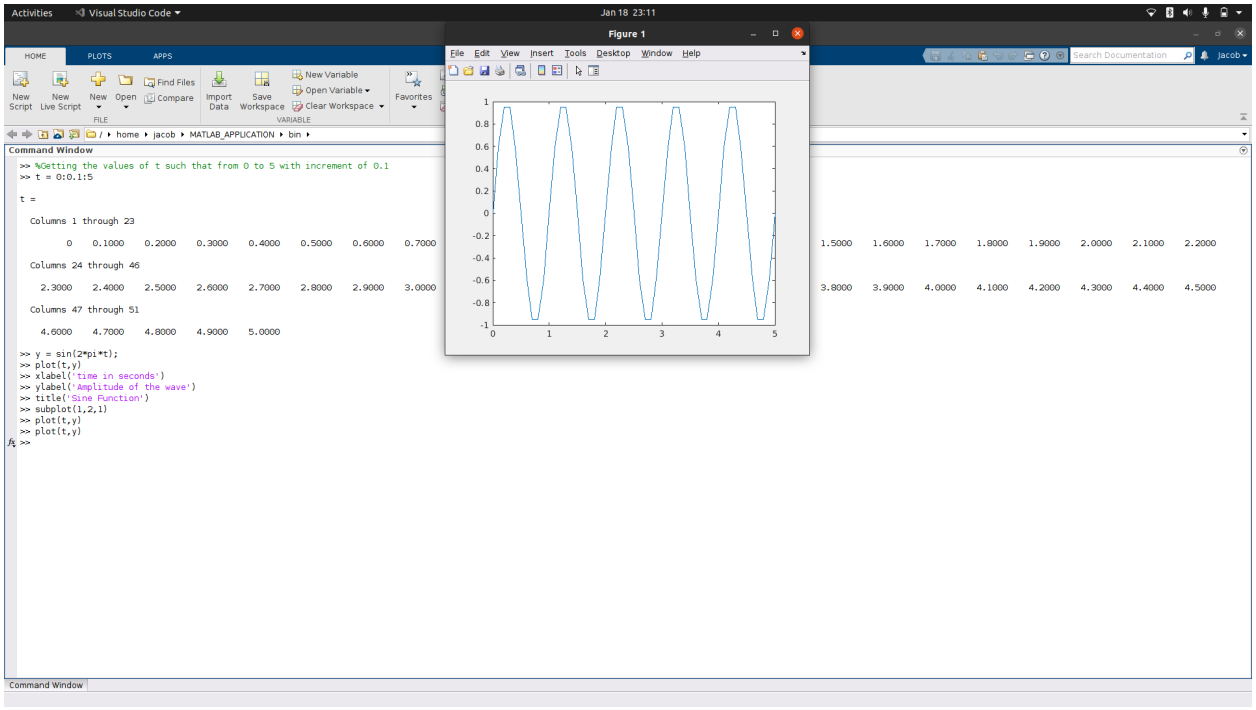

Activities
Visual Studio Code
Jan 18 23:00
MATLAB R2021b - academic use
HOME
PLOTS
APPS
Search Documentation
Jacob
New Script
New Live Script
New
Open
Find Files
Compare
Import Data
Save Workspace
New Variable
Open Variable
Clear Workspace
Favorites
Analyze Code
Run and Time
Clear Commands
Layout
Preferences
Set Path
Add-Ons
Help
Community
Request Support
Learn MATLAB
FILE
VARIABLE
CODE
ENVIRONMENT
RESOURCES
home ▸ jacob ▸ MATLAB_APPLICATION ▸ bin ▸
Command Window
>> %Taking dot product of 2 matrices
>> b(5) = 5
b =
1
2
3
4
5
>> x = dot(a,b')
x =
52
>> %Creating a 2D Matrix
>> a_2 = [1,2;2,1]
a_2 =
1 2
2 1
>> size(a_2)
ans =
2 2
>> %Multiplying the matrix with a constant value
>> a_2 = 10*a_2
a_2 =
10 20
20 10
>> %Squaring each element of the matrix
>> w_sq = a_2'2
w_sq = a_2'2
↑
Invalid expression. Check for missing multiplication operator, missing or unbalanced delimiters, or other syntax error. To construct matrices, use brackets instead of parentheses.
>> w_sq = a_2.'2
w_sq = a_2.'2
Command Window


Activities
Visual Studio Code
Jan 18 23:02
MATLAB R2021b - academic use
HOME
PLOTS
APPS
Search Documentation
Jacob
New Script
New Live Script
New
Open
Find Files
Compare
Import Data
Save Workspace
New Variable
Open Variable
Clear Workspace
Favorites
Analyze Code
Run and Time
Clear Commands
Layout
Preferences
Set Path
Add-Ons
Help
Community
Request Support
Learn MATLAB
FILE
VARIABLE
CODE
ENVIRONMENT
RESOURCES
home ▸ jacob ▸ MATLAB_APPLICATION ▸ bin ▸
Command Window
>> w_sq = a_2.^2
w_sq =
100 400
400 100
>> w_sq = a_2^2
w_sq =
500 400
400 500
>> %The above is for multiplying the matrix with itself
>> %Finding the diagonal elements of the matrix
>> diag(w_sq
diag(w_sq
↑
Invalid expression. When calling a function or indexing a variable, use parentheses. Otherwise, check for mismatched delimiters.
Did you mean:
>> diag(w_sq)
ans =
500
500
>> %Finding the inverse of the matrix
>> inv(w_sq)
ans =
0.0056 -0.0044
-0.0044 0.0056
>> %finding the determinant of the matrix
>> det(w_sq)
ans =
9.0000e+04
>>
Command Window


Activities
Visual Studio Code
Jan 18 23:04
Figure 1
File Edit View Insert Tools Desktop Window Help
HOME
PLOTS
APPS
Command Window
>> %Plotting 1 as a dot on the graph
>> plot(1, '.')
>>
Command Window


Activities
Visual Studio Code
Jan 18 23:05
Figure 1
File Edit View Insert Tools Desktop Window Help
HOME
PLOTS
APPS
Command Window
>> %Plotting 1 as a dot on the graph
>> plot(1, '.')
>> %Plotting 1 as an asterix on the graph
>> plot(1, '*')
>>
Command Window


Activities
Visual Studio Code
Jan 18 23:10
Figure 1
File Edit View Insert Tools Desktop Window Help
HOME
PLOTS
APPS
New Script
New Live Script
New
Open
Find Files
Compare
Import Data
Save Workspace
New Variable
Open Variable
Clear Workspace
Favorites
FILE
VARIABLE
Search Documentation
Jacob
/ ▸ home ▸ jacob ▸ MATLAB_APPLICATION ▸ bin ▸
Command Window
>> %Getting the values of t such that from 0 to 5 with increment of 0.1
>> t = 0:0.1:5
t =
Columns 1 through 23
0 0.1000 0.2000 0.3000 0.4000 0.5000 0.6000 0.7000
Columns 24 through 46
2.3000 2.4000 2.5000 2.6000 2.7000 2.8000 2.9000 3.0000
Columns 47 through 51
4.6000 4.7000 4.8000 4.9000 5.0000
>> y = sin(2*pi*t);
>> plot(t,y)
>>
1.5000 1.6000 1.7000 1.8000 1.9000 2.0000 2.1000 2.2000
3.8000 3.9000 4.0000 4.1000 4.2000 4.3000 4.4000 4.5000
Command Window


Activities
Visual Studio Code
Jan 18 23:11
Figure 1
File Edit View Insert Tools Desktop Window Help
HOME
PLOTS
APPS
New Script
New Live Script
New
Open
Find Files
Compare
Import Data
Save Workspace
New Variable
Open Variable
Clear Workspace
Favorites
FILE
VARIABLE
Search Documentation
Jacob
/ ▸ home ▸ jacob ▸ MATLAB_APPLICATION ▸ bin ▸
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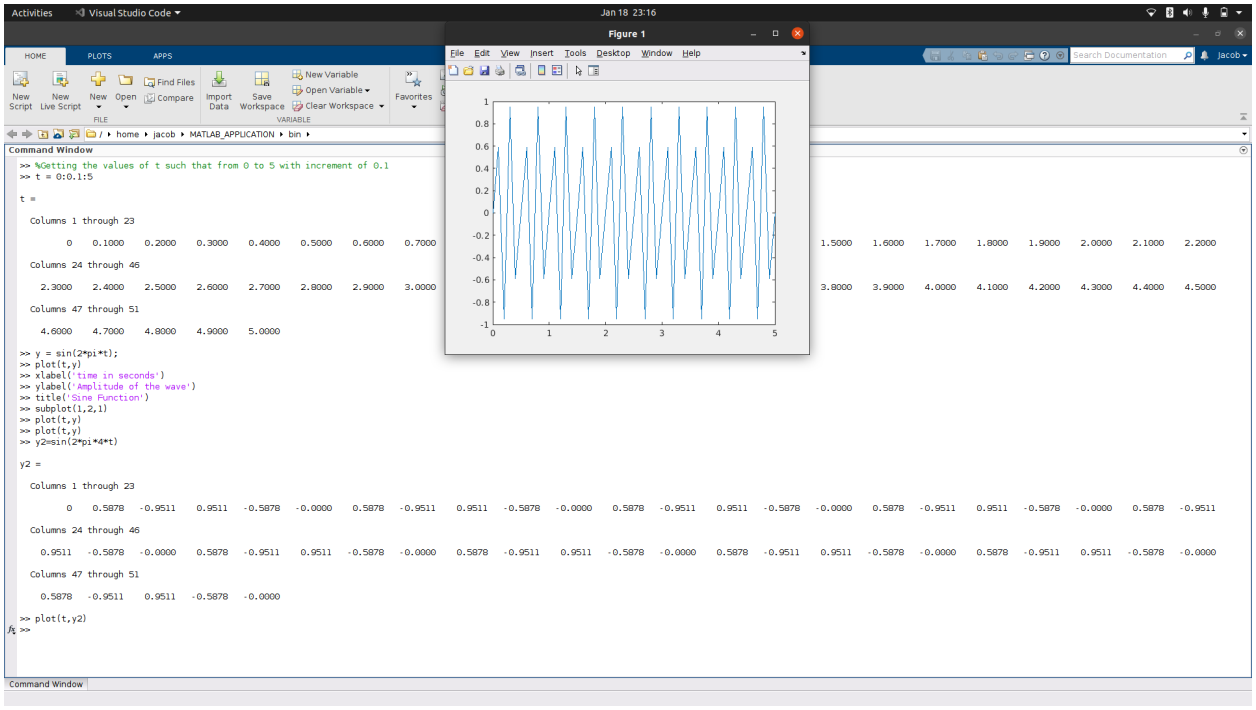
Columns 24 through 46
2.3000 2.4000 2.5000 2.6000 2.7000 2.8000 2.9000 3.0000
Columns 47 through 51
4.6000 4.7000 4.8000 4.9000 5.0000
>> y = sin(2*pi*t);
>> plot(t,y)
>> xlabel('time in seconds')
>> ylabel('Amplitude of the wave')
>> title('Sine Function')
>> subplot(1,2,1)
>> plot(t,y)
>> plot(t,y)
>>
1.5000 1.6000 1.7000 1.8000 1.9000 2.0000 2.1000 2.2000
3.8000 3.9000 4.0000 4.1000 4.2000 4.3000 4.4000 4.5000
Command Window


Activities
Visual Studio Code
Jan 18 23:16
Figure 1
File Edit View Insert Tools Desktop Window Help
HOME
PLOTS
APPS
New Script
New Live Script
New
Open
Find Files
Compare
Import Data
Save Workspace
New Variable
Open Variable
Clear Workspace
Favorites
FILE
VARIABLE
/ ▸ home ▸ jacob ▸ MATLAB_APPLICATION ▸ bin ▸
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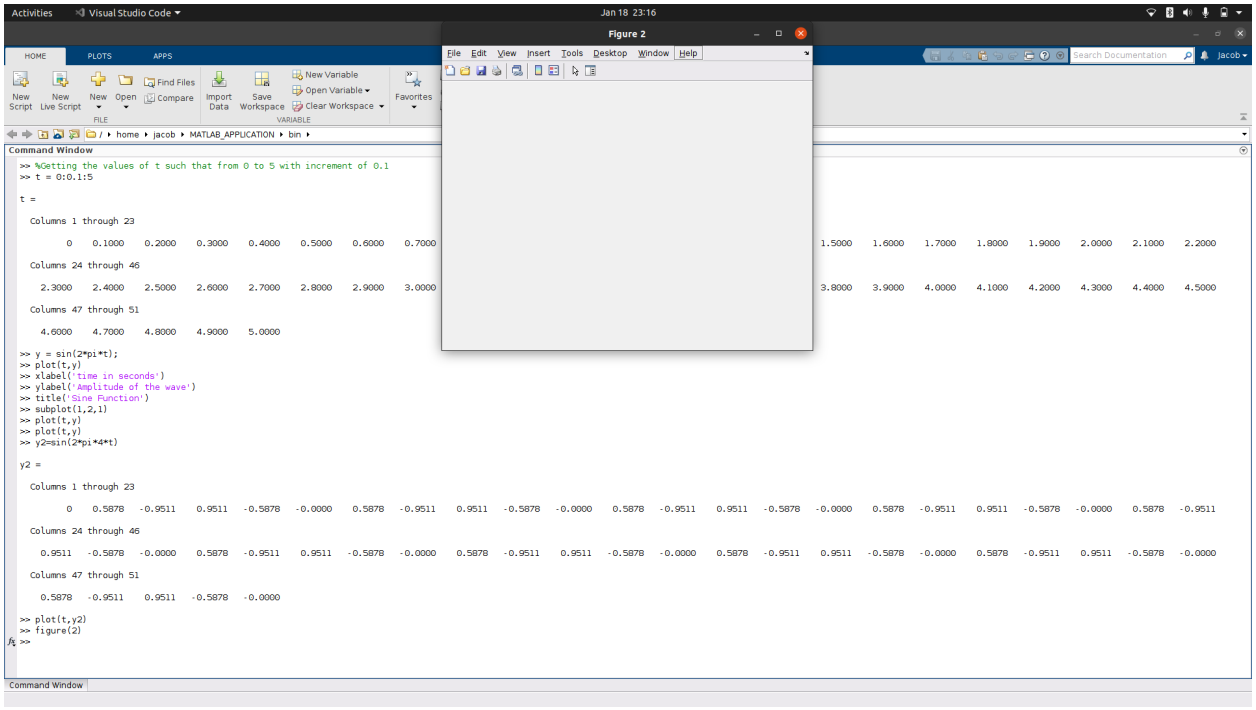
4.6000 4.7000 4.8000 4.9000 5.0000
>> y = sin(2*pi*t);
>> plot(t,y)
>> xlabel('time in seconds')
>> ylabel('Amplitude of the wave')
>> title('Sine Function')
>> subplot(1,2,1)
>> plot(t,y)
>> plot(t,y)
>> y2=sin(2*pi*4*t)
y2 =
Columns 1 through 23
0 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511
Columns 24 through 46
0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000
Columns 47 through 51
0.5878 -0.9511 0.9511 -0.5878 -0.0000
>> plot(t,y2)
>>
Command Window


Activities
Visual Studio Code
Jan 18 23:16
Figure 2
File Edit View Insert Tools Desktop Window Help
HOME
PLOTS
APPS
New Script
New Live Script
New
Open
Find Files
Compare
Import Data
Save Workspace
New Variable
Open Variable
Clear Workspace
Favorites
FILE
VARIABLE
/ ▸ home ▸ jacob ▸ MATLAB_APPLICATION ▸ bin ▸
Command Window
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Columns 1 through 23
0 0.1000 0.2000 0.3000 0.4000 0.5000 0.6000 0.7000
Columns 24 through 46
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4.6000 4.7000 4.8000 4.9000 5.0000
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>> xlabel('time in seconds')
>> ylabel('Amplitude of the wave')
>> title('Sine Function')
>> subplot(1,2,1)
>> plot(t,y)
>> plot(t,y)
>> y2=sin(2*pi*4*t)
y2 =
Columns 1 through 23
0 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511
Columns 24 through 46
0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000 0.5878 -0.9511 0.9511 -0.5878 -0.0000
Columns 47 through 51
0.5878 -0.9511 0.9511 -0.5878 -0.0000
>> plot(t,y2)
>> figure(2)
>>
Command Window