QUESTION4b

$$A := \begin{pmatrix} 1 & -2 & -1 & 3 \\ 2 & 3 & 0 & 1 \\ 1 & 0 & -4 & -2 \\ 0 & -1 & 3 & 1 \end{pmatrix} \qquad B := \begin{pmatrix} 10 \\ 8 \\ 3 \\ -7 \end{pmatrix}$$

$$A^{-1} = \begin{pmatrix} 0.027 & 0.24 & 0.493 & 0.667 \\ -0.093 & 0.16 & -0.227 & -0.333 \\ -0.107 & 0.04 & 0.027 & 0.333 \\ 0.227 & 0.04 & -0.307 & -0.333 \end{pmatrix} \qquad T := A^{-1} \cdot B$$

$$T = \begin{pmatrix} -1 \\ 2 \\ -3 \\ 4 \end{pmatrix}$$

$$Z := \begin{pmatrix} 273 \\ 273 \\ 273 \\ 273 \end{pmatrix}$$

$Tk := Z + T$

$$Tk = \begin{pmatrix} 272 \\ 275 \\ 270 \\ 277 \end{pmatrix}$$

$Tk1 := 272$

$Tk2 := 275$

$Tk3 := 270$

$Tk4 := 277$

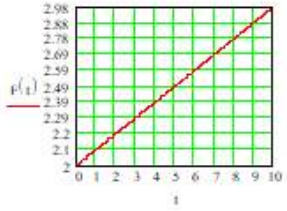
QUESTION4d

$$F(t) := 2 + 2t - 2\cos\left(\frac{\pi}{10}\right)t$$

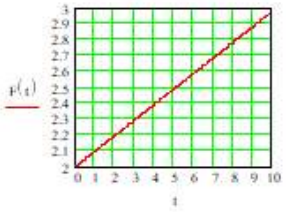
$$G(t) := 2\sin\left(\frac{\pi}{70}\right)t$$

i > seperatly

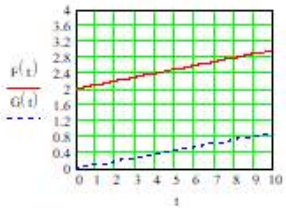
$0 \le t \le 10$



ib



ii > together



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- Joshua007.m
- joshua2813.mat
- joshua2813.m
- joshua2812.m
- joshua2811.mat
- MATLAB

Details

Workspace

Name	Value
A	4x4 do
B	[10;8;3
C	4x4 do
K	[281.3
T	[8.333

Command Window

```
C =

    0.0267    0.2400    0.4933    0.6667
   -0.0933    0.1600   -0.2267   -0.3333
   -0.1067    0.0400    0.0267    0.3333
    0.2267    0.0400   -0.3067   -0.3333


B =

    10
     8
     3
     7


T =

    8.3333
   -2.6667
    1.6667
   -0.6667


K =

  281.3333
  270.3333
  274.6667
  272.3333

fx >>
```

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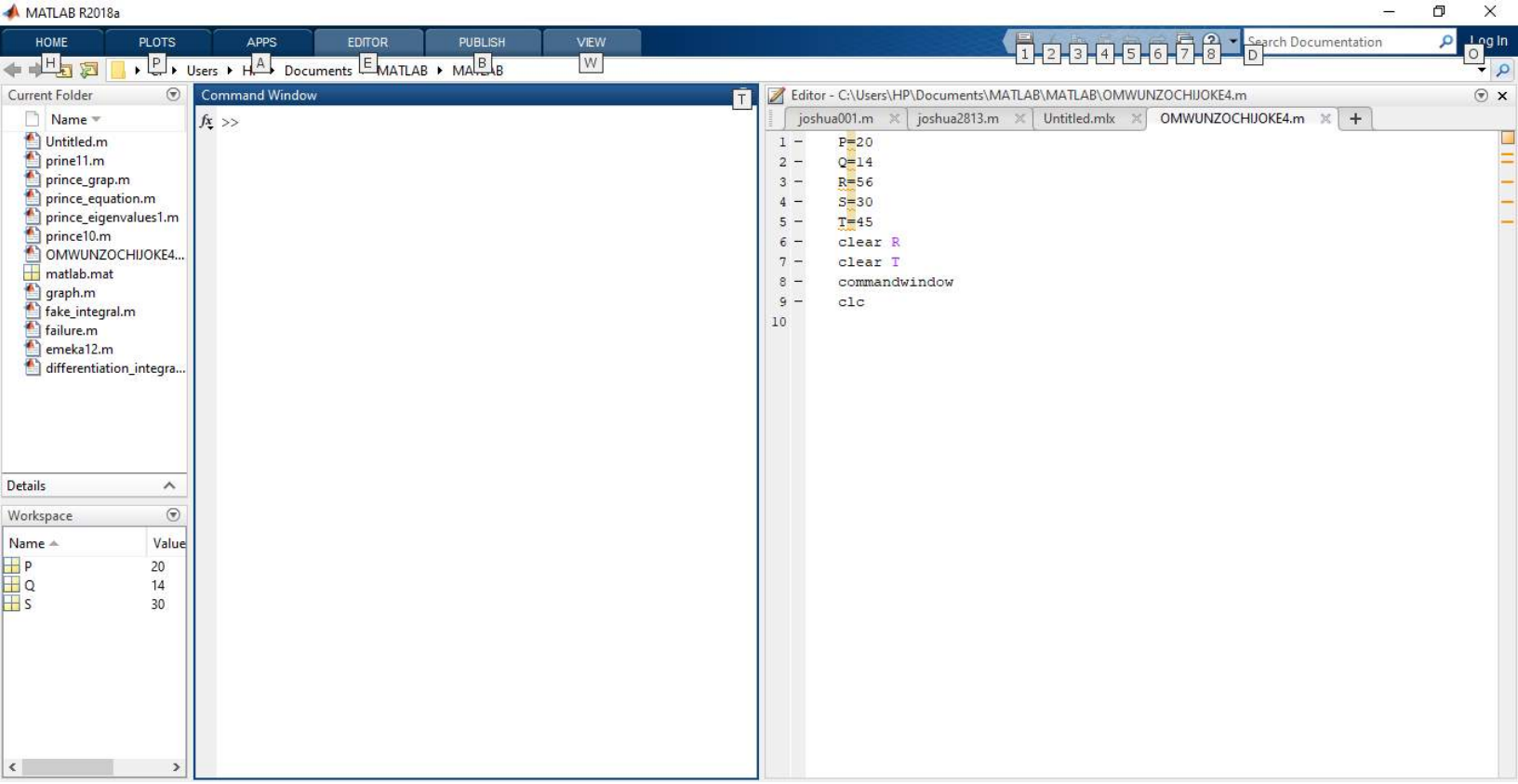
joshua2813.m | Untitled.mlx | OMWUNZOCHIJOKE4.m | OMWUNZOCHIJOKE4.m

```
1 -    commandwindow
2 -    clear
3 -    clc
4 -    close all
5 -    A= [1 -2 -1 3; 2 3 0 1; 1 0 -4 -2; 0 -1 3 1]
6 -    C= inv(A)
7 -    B= [ 10; 8; 3; 7 ;]
8 -    T= C*B
9 -    K= 273+ T
10
```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failure.m
emeka12.m
differentiation_integra...
Details
Workspace
Name
Value
P 20
Q 14
S 30
Command Window
>>
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joshua001.m
joshua2813.m
Untitled.mlx
OMWUNZOCHIJOKE4.m
1 P=20
2 Q=14
3 R=56
4 S=30
5 T=45
6 clear R
7 clear T
8 commandwindow
9 clc
10

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- joshua2813.mat
- joshua2812.m
- joshua2811.mat
- MATLAB

Details

Workspace

Name	Value
C	100
I	1x1 sy
In	1x36 s
P	1x1 sy
Pn	1x36 s
t	1x36 d
V	1x1 sy
Vn	1x36 s
xlabel	'time(
ylabel	'variab

Command Window

```
    0.3000    0.3100    0.3200    0.3300    0.3400

  Column 36

    0.3500


Vn =

[ 110, - (55*5^(1/2))/2 - 55/2, (55*5^(1/2))/2 - 55/2, (55


Pn =

[ 605000, 605000*(5^(1/2)/4 + 1/4)^2, 605000*(5^(1/2)/4 -


In =

[ 5500, - 1375*5^(1/2) - 1375, 1375*5^(1/2) - 1375, 1375*5


xlabel =

    'time(sec)'


ylabel =

    'variable'

fx >>
```

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+2 | OMWUNZOCHIJOKE4.m | OMWUNZOCHIJOKE4.m | OMWUNZOCHIJOKE4c.m

```
1  commandwindow
2  clear
3  clc
4  close all
5  syms t
6  V=110*cos(120*pi*t)
7  C=100
8  P= 0.5*C*V^2
9  I=P/V
10 t= [0:0.01:0.35]
11 Vn= subs(V,t)
12 Pn= subs(P,t)
13 In= subs(I,t)
14 plot(t,Vn,t,Pn,t,In)
15 xlabel=('time(sec)')
16 ylabel=('variable')
17 grid on
18 grid minor
19 legend ('voltage(V)','current(I)','power(W)')
20
```

Figure 1

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