

QUESTION4b

$$A := \begin{pmatrix} 1 & -2 & -1 & 3 \\ 2 & 3 & 0 & 1 \\ 1 & 0 & -4 & -2 \\ 0 & -1 & 3 & 1 \end{pmatrix}$$

$$B := \begin{pmatrix} 10 \\ 8 \\ 3 \\ -7 \end{pmatrix}$$

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

$$T := A^{-1} \cdot B$$

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

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

$$Tk := Z + T$$

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

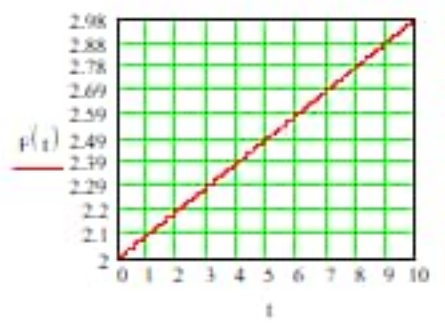
Tk1 := 272  
Tk2 := 275  
Tk3 := 270  
Tk4 := 277

QUESTION4d

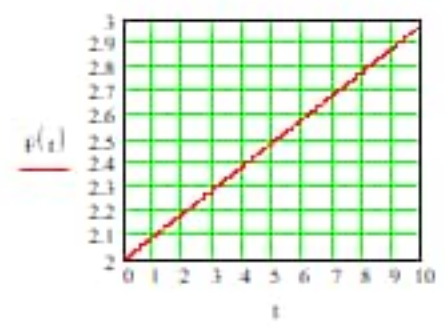
$$F(t) := 2 + 2t - 2 \cos\left(\frac{\pi}{10}\right)t$$

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

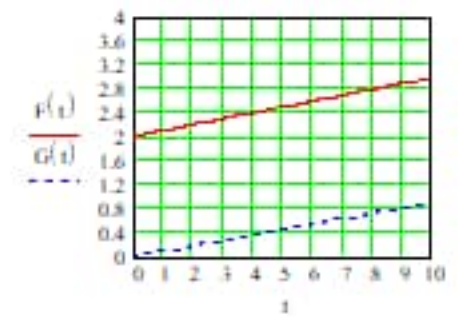
i > seperatly  
 $0 \leq t \leq 10$

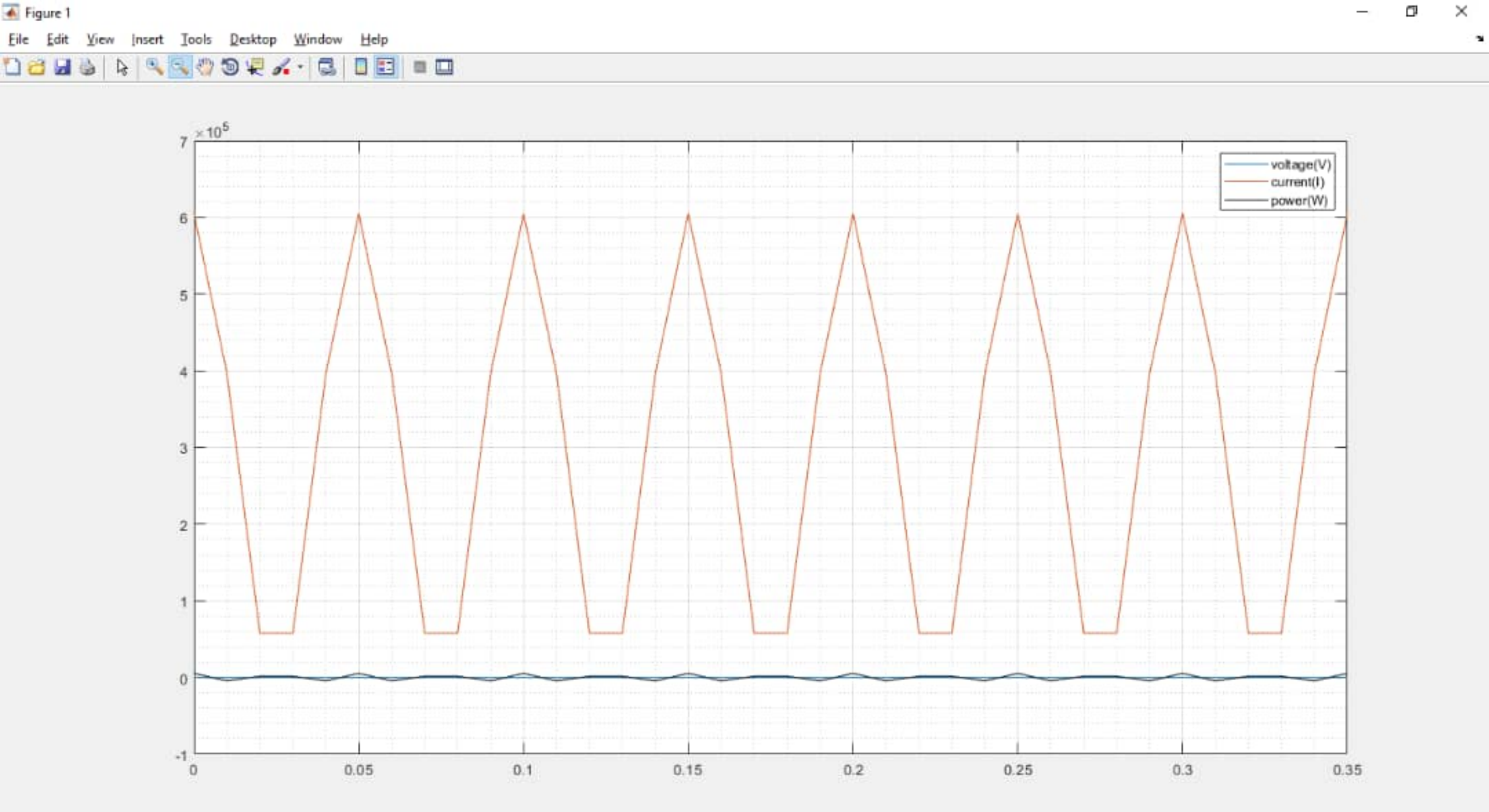


ib



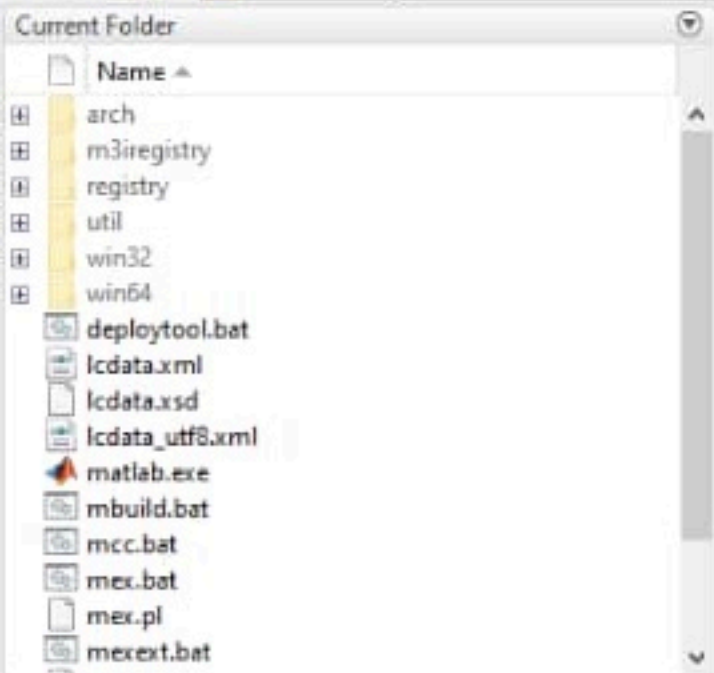
ii > together







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Details

Workspace

Name	Value
A	4x4 double
B	[10;8;3;-7]
C	4x4 double
D	[-1.0000;2.0000;-3.000...
E	[273;273;273;273]
F	[272;275;270;277]

```

Editor - C:\Users\olado\Documents\MATLAB\chidimilestonetestQ4b.m
chidimilestonetestQ4a.m x chidimilestonetestQ4b.m x +
1 -   commandwindow
2 -   clc
3 -   clear
4 -   A=[1 -2 -1 3; 2 3 0 1; 1 0 -4 -2; 0 -1 3 1]
5 -   B=[10; 8; 3; -7]
6 -   C= inv(A)
7 -   D= C*B
8 -   E= [273; 273; 273; 273]
9 -   F= D+E
10
11
12
13
14
15

```

Command Window

```

273
273

F =

    272
    275
    270
    277

```

fx >>

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- lcdata.xsd
- lcdata\_utf8.xml
- matlab.exe
- mbuild.bat
- mcc.bat
- mex.bat
- mex.pl
- mexext.bat

Details

Workspace

Name	Value
C	100
I	1x1 sym
In	1x36 sym
P	1x1 sym
Pn	1x36 sym
t	1x36 double
V	1x1 sym
Vn	1x36 sym
xlabel	'time(sec)'
ylabel	'variable'

Editor - C:\Users\olado\Documents\MATLAB\chidimilestonetestQ4c.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)')
    
```

Command Window

```

Pn =

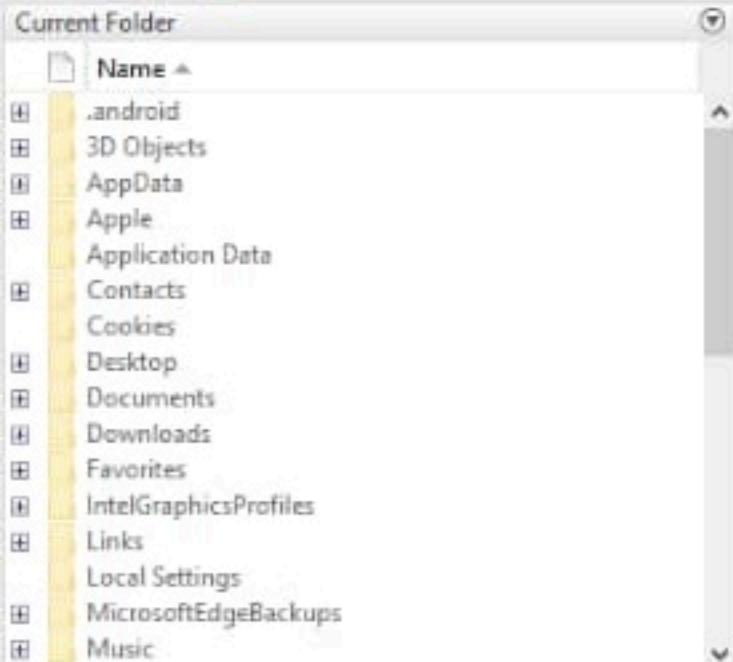
[ 605000, 605000*(5^(1/2)/4 + 1/4)^2, 605000*(5^(1/2)/4 - 1/4)^2, 605000*(5^(1/2)/4 - 1/4)^2, 605000*(5^(1/2)/4 + 1/4)^2,

In =

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



C:\Users\olado



Details

Workspace

Name	Value
P	33
Q	44
S	11

Editor - C:\Users\olado\chidimilestonetestQ4.m

chidimilestonetestQ4.m

```
1 - P=33
2 - Q=44
3 - R=26
4 - S=11
5 - T=39
6 - clear R
7 - clear T
8 - commandwindow
9 - clc
10
```

Command Window

>>