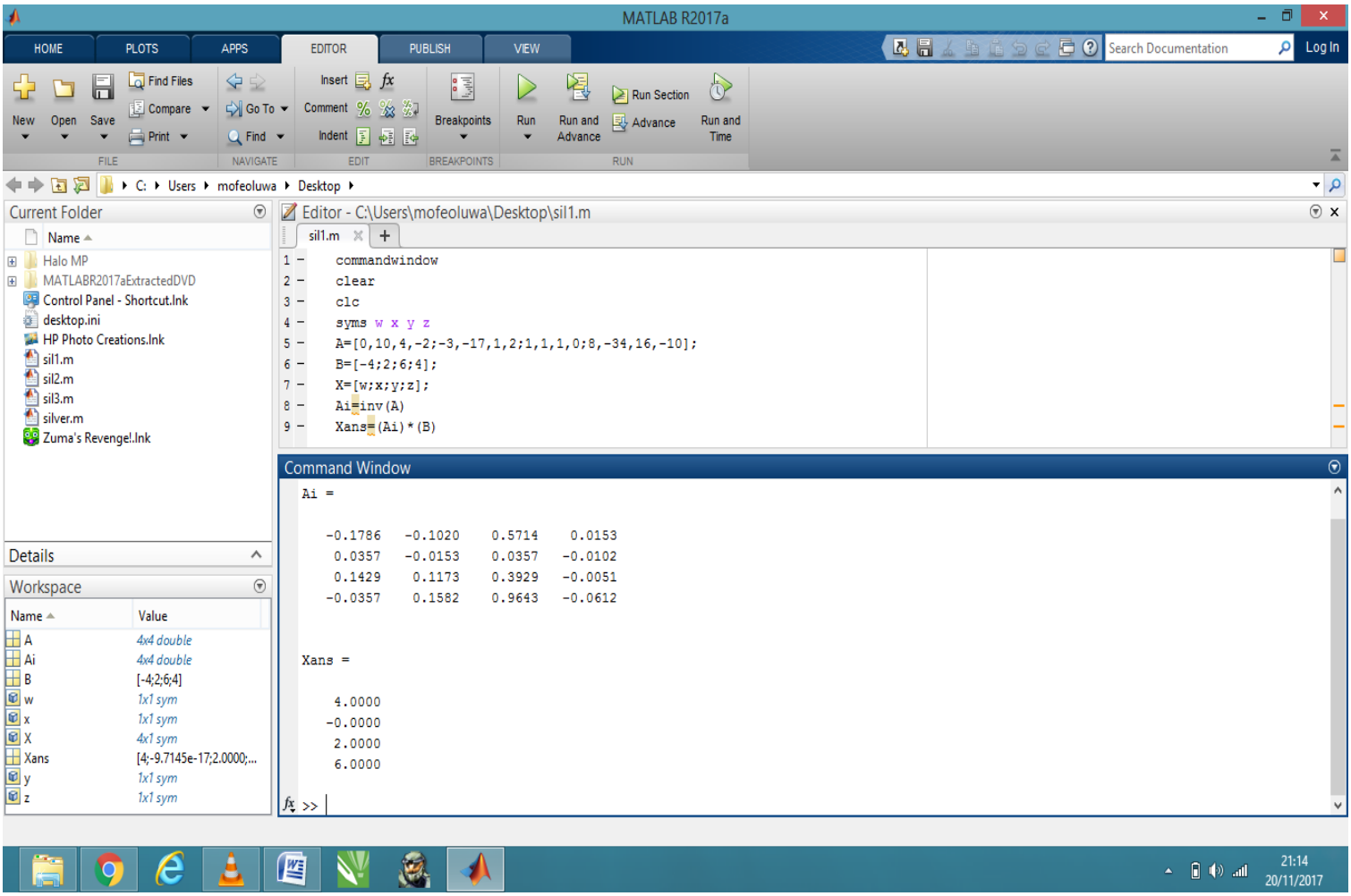
## QUESTION 4a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Run and Advance
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Advance
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FILE
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C: ▸ Users ▸ mofeoluwa ▸ Desktop ▸
Current Folder
Name
Halo MP
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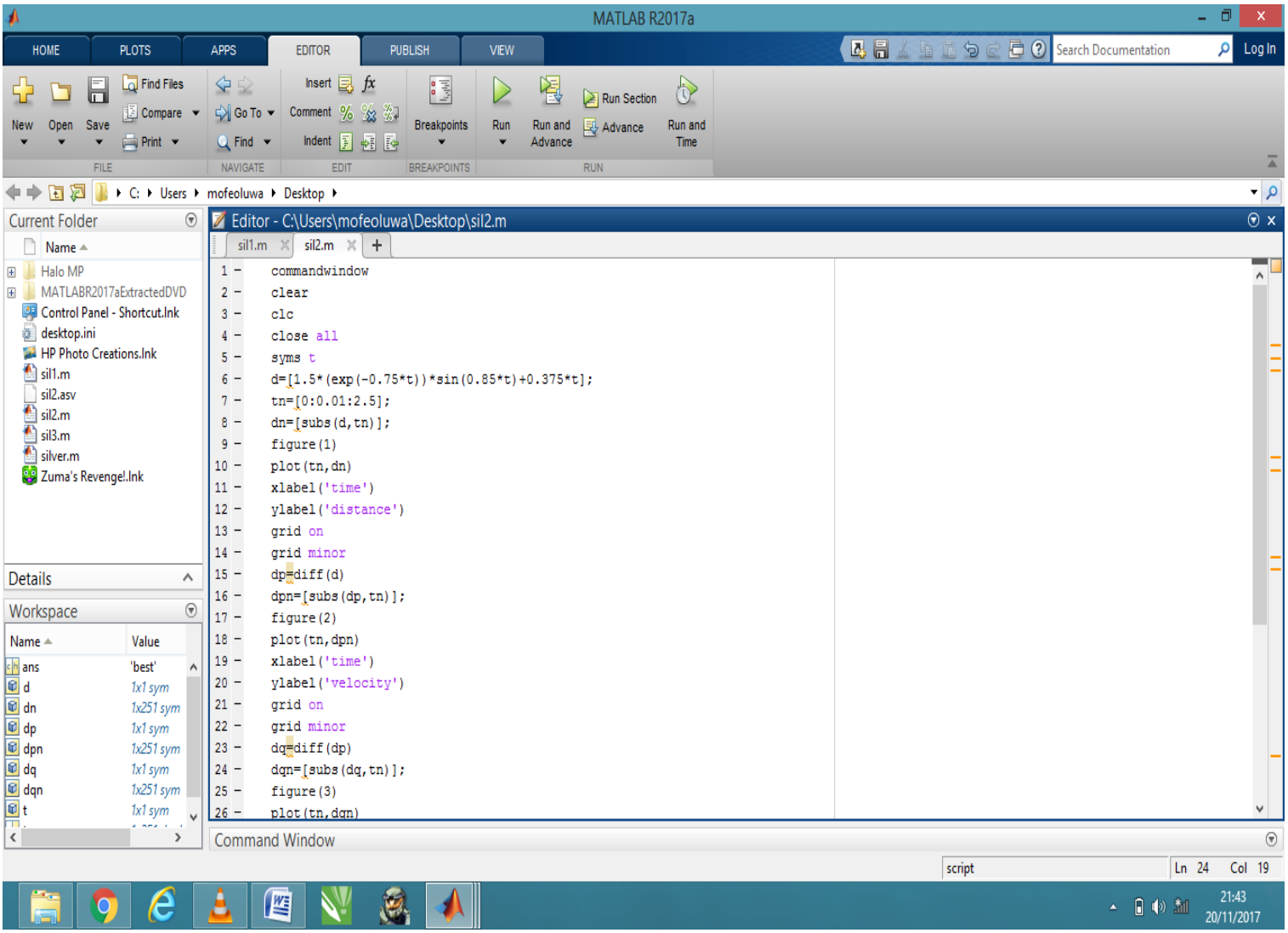
Control Panel - Shortcut.lnk
desktop.ini
HP Photo Creations.lnk
sil1.m
sil2.m
sil3.m
silver.m
Zuma's Revenge!.lnk
Details
Workspace
Name
Value
A 4x4 double
Ai 4x4 double
B [-4;2;6;4]
w 1x1 sym
x 1x1 sym
X 4x1 sym
Xans [4;-9.7145e-17;2.0000;...
y 1x1 sym
z 1x1 sym
Editor - C:\Users\mofeoluwa\Desktop\sil1.m
sil1.m
1 – commandwindow
2 – clear
3 – clc
4 – syms w x y z
5 – A=[0,10,4,-2;-3,-17,1,2;1,1,1,0;8,-34,16,-10];
6 – B=[-4;2;6;4];
7 – X=[w;x;y;z];
8 – Ai=inv(A)
9 – Xans=(Ai)*(B)
Command Window
Ai =
-0.1786 -0.1020 0.5714 0.0153
0.0357 -0.0153 0.0357 -0.0102
0.1429 0.1173 0.3929 -0.0051
-0.0357 0.1582 0.9643 -0.0612
Xans =
4.0000
-0.0000
2.0000
6.0000
fx >>
21:14
20/11/2017

## QUESTION 4b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Compare
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Go To
Find
Insert
Comment
Indent
Breakpoints
Run
Run and Advance
Run Section
Advance
Run and Time
FILE
NAVIGATE
EDIT
BREAKPOINTS
RUN
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Current Folder
Name
Halo MP
MATLABR2017aExtractedDVD
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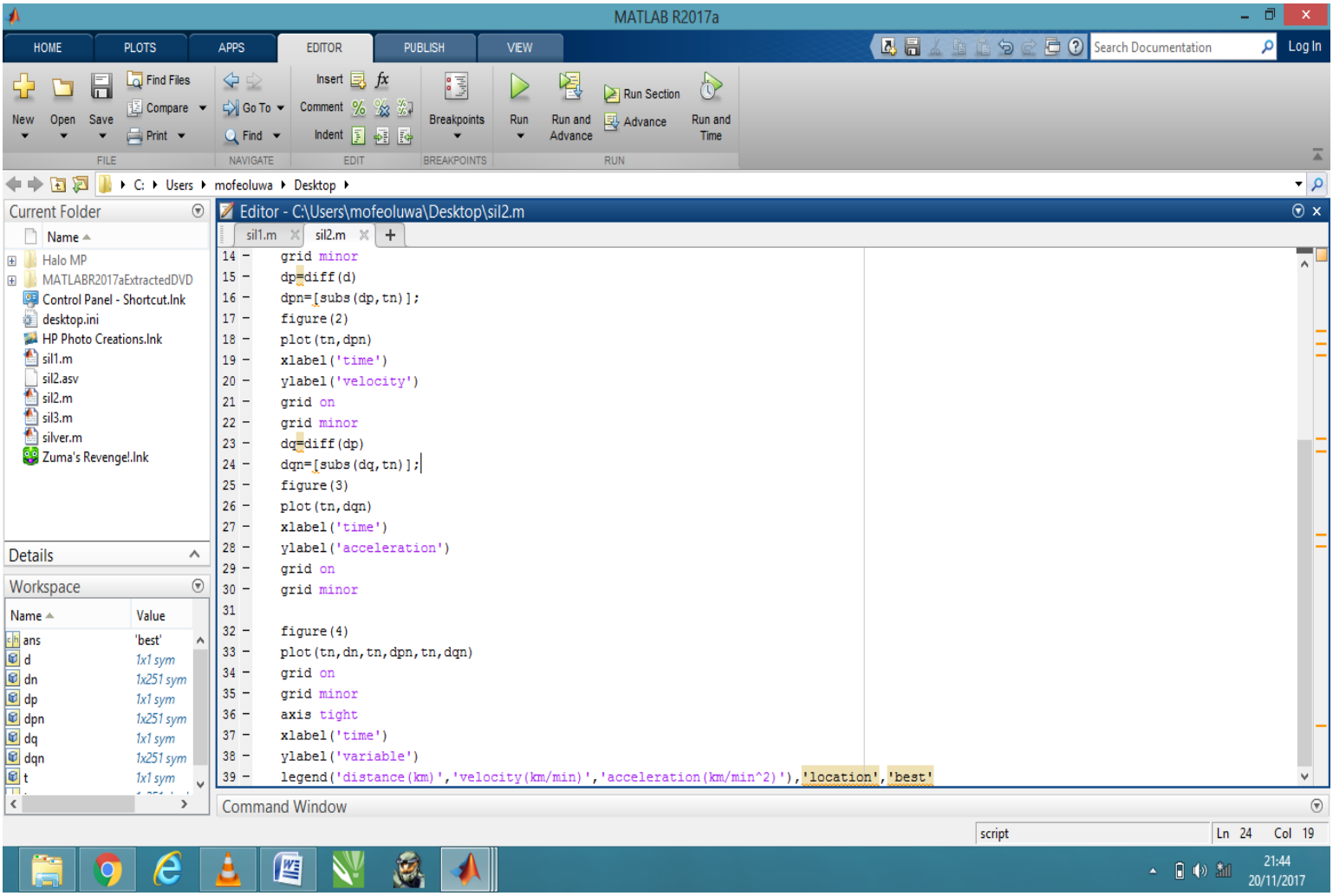
sil1.m
sil2.asv
sil2.m
sil3.m
silver.m
Zuma's Revenge!.lnk
Details
Workspace
Name
Value
ans 'best'
d 1x1 sym
dn 1x251 sym
dp 1x1 sym
dpn 1x251 sym
dq 1x1 sym
dqn 1x251 sym
t 1x1 sym
Editor - C:\Users\mofeoluwa\Desktop\sil2.m
sil1.m
sil2.m
1 - commandwindow
2 - clear
3 - clc
4 - close all
5 - syms t
6 - d=[1.5*(exp(-0.75*t))*sin(0.85*t)+0.375*t];
7 - tn=[0:0.01:2.5];
8 - dn=[subs(d,tn)];
9 - figure(1)
10 - plot(tn,dn)
11 - xlabel('time')
12 - ylabel('distance')
13 - grid on
14 - grid minor
15 - dp=diff(d)
16 - dpn=[subs(dp,tn)];
17 - figure(2)
18 - plot(tn,dpn)
19 - xlabel('time')
20 - ylabel('velocity')
21 - grid on
22 - grid minor
23 - dq=diff(dp)
24 - dqn=[subs(dq,tn)];
25 - figure(3)
26 - plot(tn,dqn)
Command Window
script
Ln 24 Col 19
21:43
20/11/2017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Find
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Insert
Comment
Indent
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Breakpoints
BREAKPOINTS
Run
Run and Advance
Run Section
Advance
Run and Time
RUN
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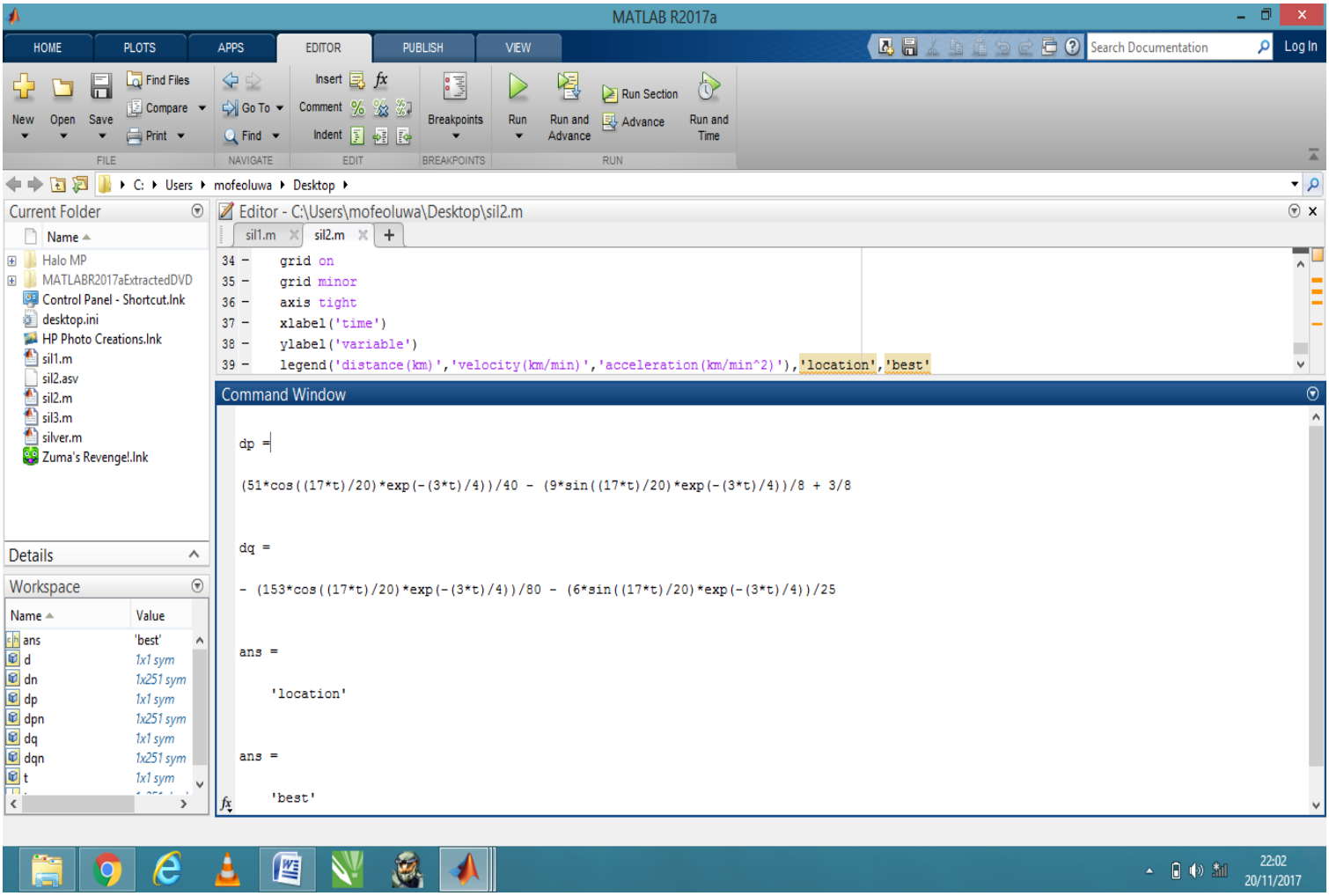
desktop.ini
HP Photo Creations.lnk
sil1.m
sil2.asv
sil2.m
sil3.m
silver.m
Zuma's Revenge!.lnk
Details
Workspace
Name
Value
ans 'best'
d 1x1 sym
dn 1x251 sym
dp 1x1 sym
dpn 1x251 sym
dq 1x1 sym
dqn 1x251 sym
t 1x1 sym
Editor - C:\Users\mofeoluwa\Desktop\sil2.m
sil1.m
sil2.m
14 – grid minor
15 – dp=diff(d)
16 – dpn=[subs(dp,tn)];
17 – figure(2)
18 – plot(tn,dpn)
19 – xlabel('time')
20 – ylabel('velocity')
21 – grid on
22 – grid minor
23 – dq=diff(dp)
24 – dqn=[subs(dq,tn)];
25 – figure(3)
26 – plot(tn,dqn)
27 – xlabel('time')
28 – ylabel('acceleration')
29 – grid on
30 – grid minor
31
32 – figure(4)
33 – plot(tn,dn,tn,dpn,tn,dqn)
34 – grid on
35 – grid minor
36 – axis tight
37 – xlabel('time')
38 – ylabel('variable')
39 – legend('distance(km)','velocity(km/min)','acceleration(km/min^2)'),'location','best'
Command Window
script
Ln 24 Col 19
21:44
20/11/2017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Print
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Go To
Find
NAVIGATE
Insert
Comment
Indent
EDIT
Breakpoints
BREAKPOINTS
Run
Run and Advance
Run Section
Advance
Run and Time
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sil1.m
sil2.asv
sil2.m
sil3.m
silver.m
Zuma's Revenge!.lnk
Details
Workspace
Name
Value
ans 'best'
d 1x1 sym
dn 1x251 sym
dp 1x1 sym
dpn 1x251 sym
dq 1x1 sym
dqn 1x251 sym
t 1x1 sym
Editor - C:\Users\mofeoluwa\Desktop\sil2.m
sil1.m
sil2.m
34 – grid on
35 – grid minor
36 – axis tight
37 – xlabel('time')
38 – ylabel('variable')
39 – legend('distance(km)','velocity(km/min)','acceleration(km/min^2)'),'location','best'
Command Window
dp =
(51*cos((17*t)/20)*exp(-(3*t)/4))/40 - (9*sin((17*t)/20)*exp(-(3*t)/4))/8 + 3/8
dq =
- (153*cos((17*t)/20)*exp(-(3*t)/4))/80 - (6*sin((17*t)/20)*exp(-(3*t)/4))/25
ans =
'location'
ans =
'best'
22:02
20/11/2017

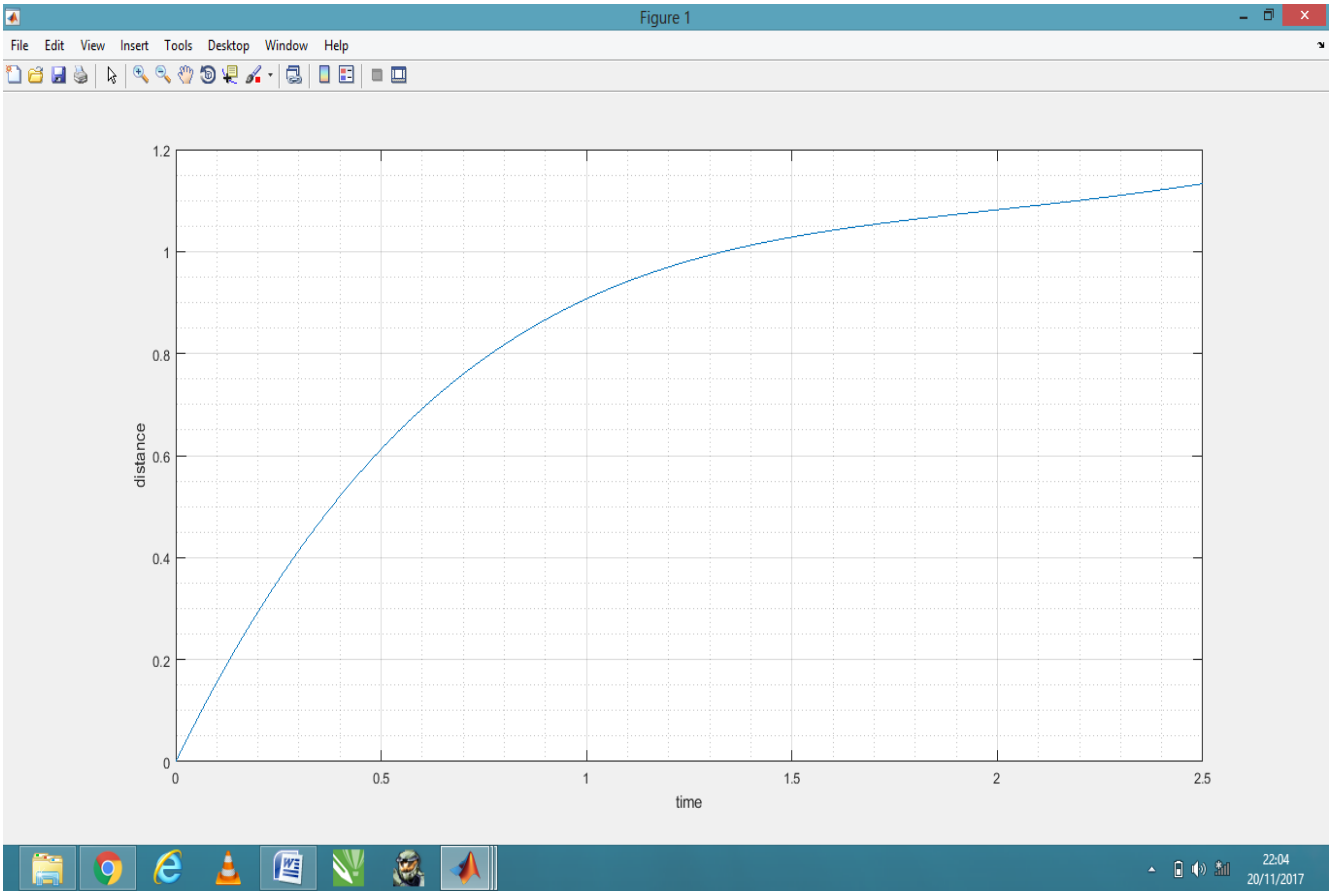


Figure 1
File Edit View Insert Tools Desktop Window Help
distance
time
0
0.2
0.4
0.6
0.8
1
1.2
0
0.5
1
1.5
2
2.5
22:04
20/11/2017

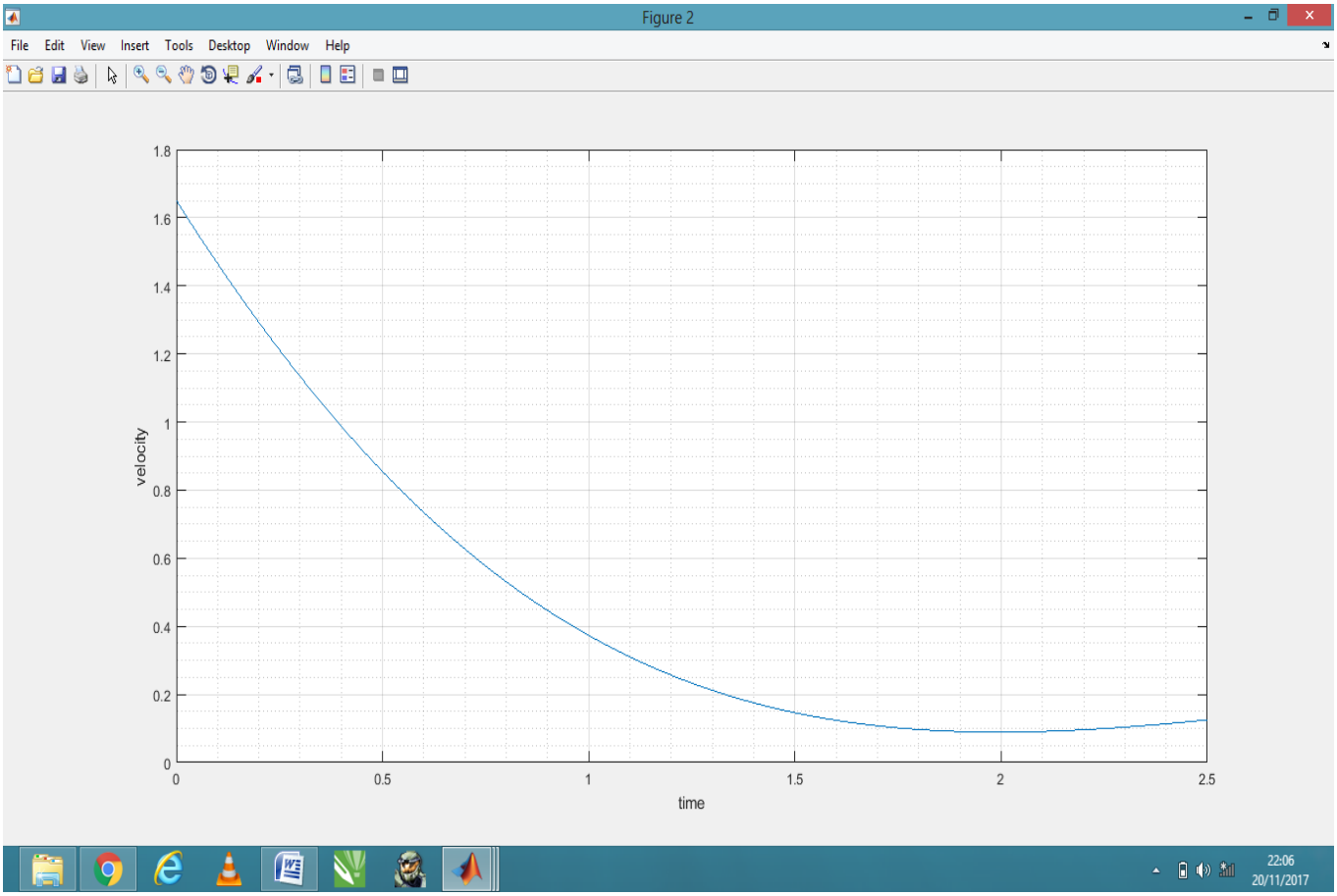


Figure 2
File Edit View Insert Tools Desktop Window Help
velocity
time
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
0.5
1.5
2
2.5
22:06
20/11/2017

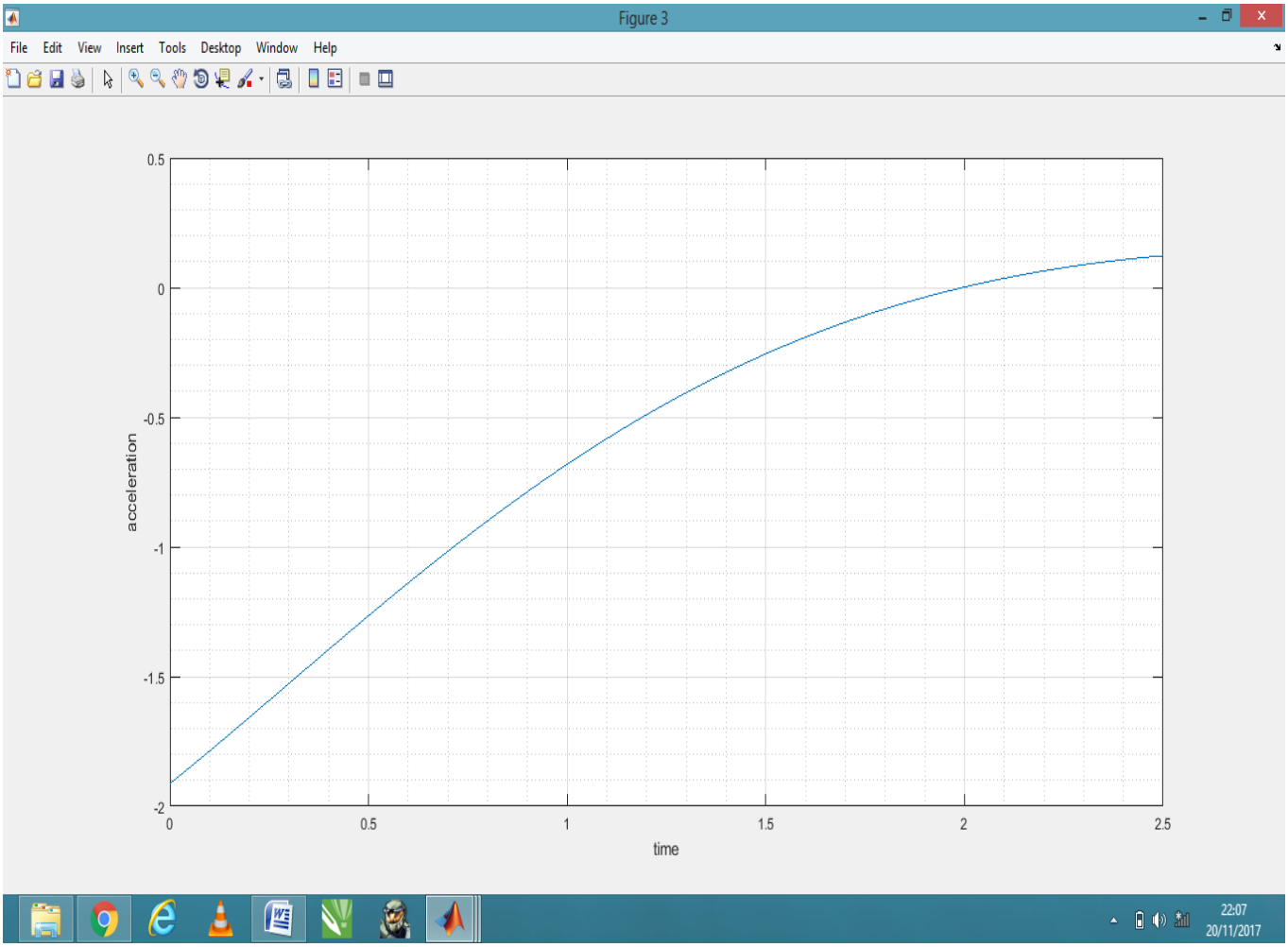


Figure 3
File Edit View Insert Tools Desktop Window Help
0.5
0
-0.5
-1
-1.5
-2
acceleration
0
0.5
1
1.5
2
2.5
time
22:07
20/11/2017

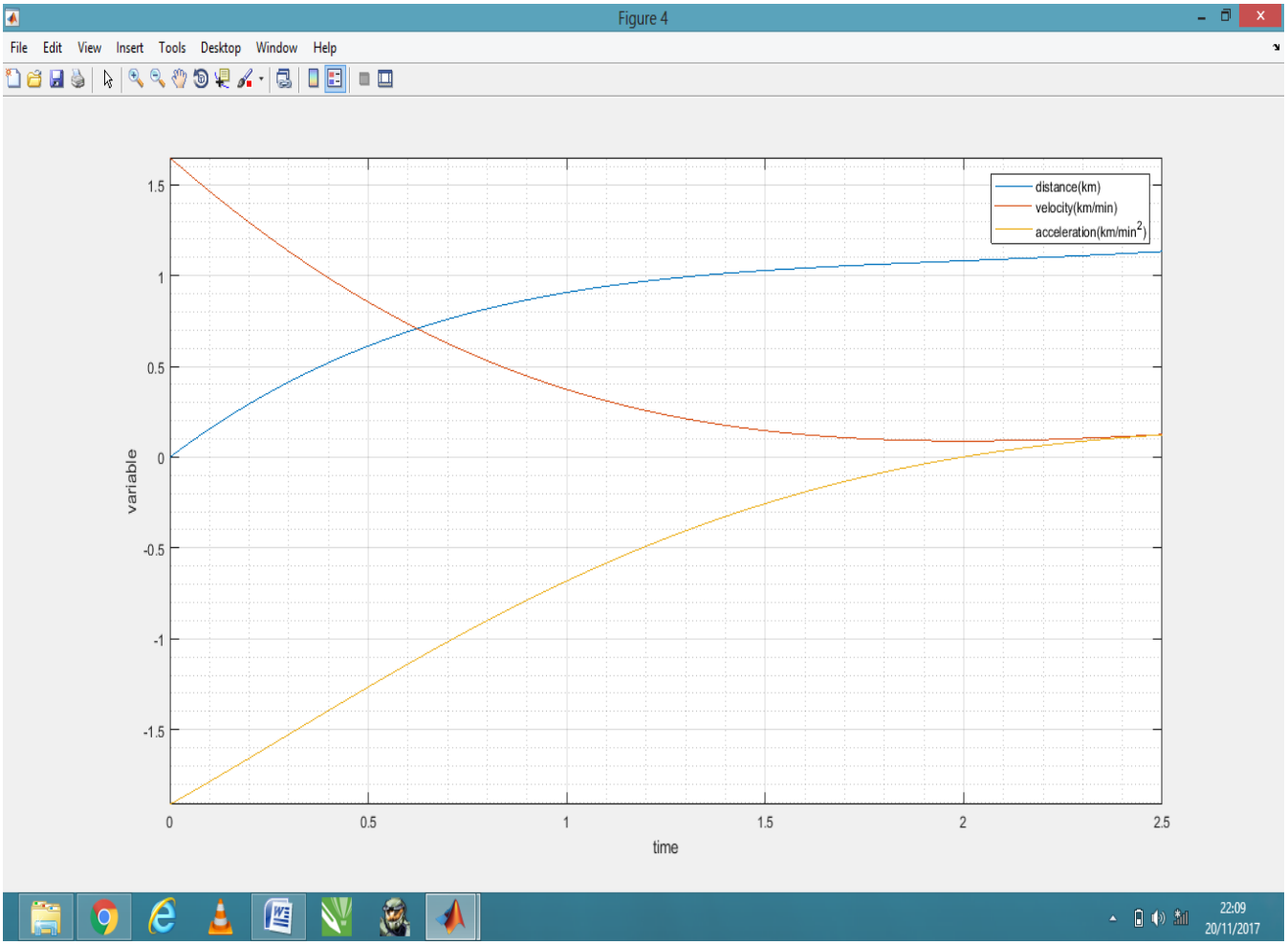
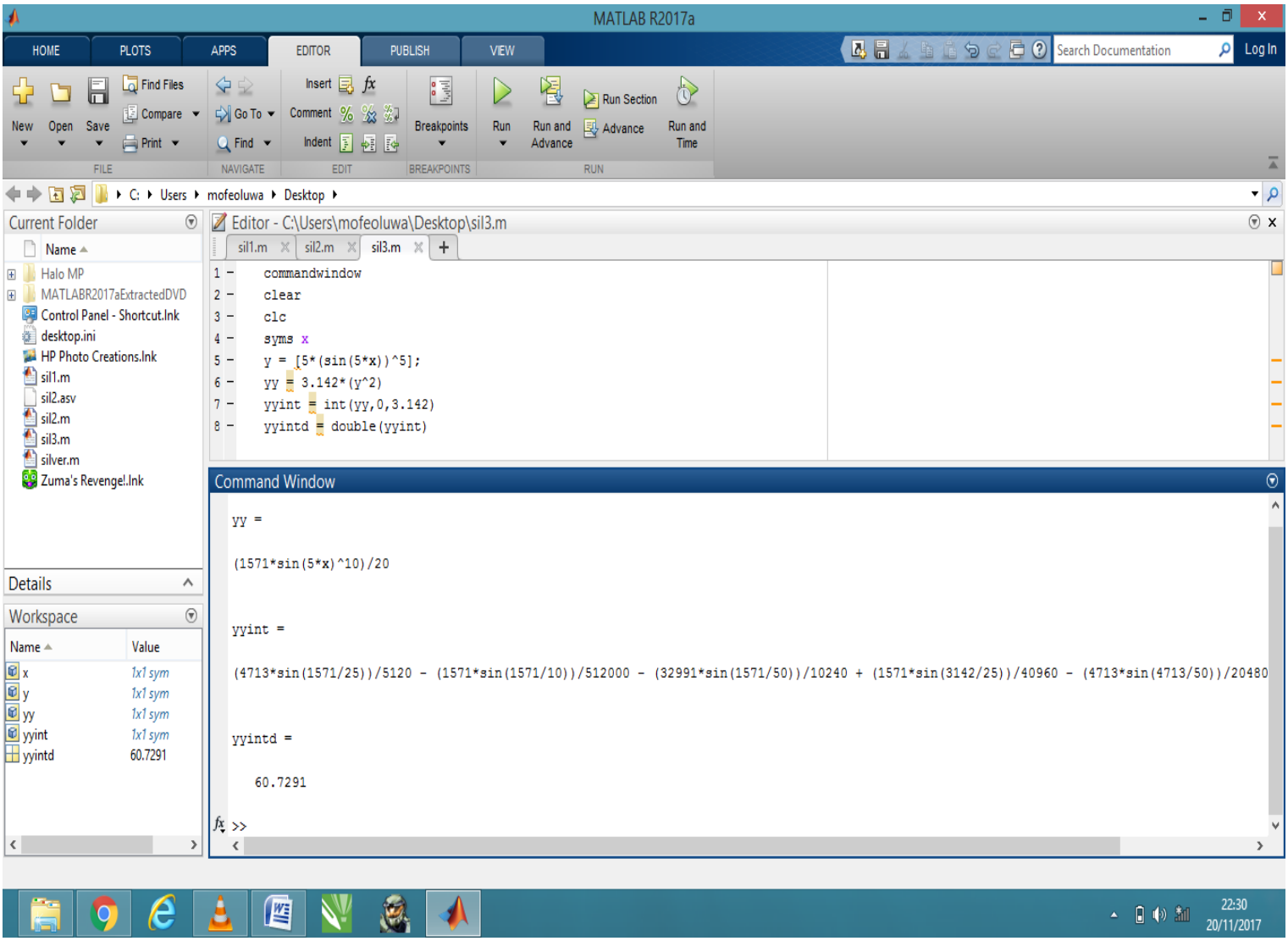


Figure 4
File Edit View Insert Tools Desktop Window Help
distance(km)
velocity(km/min)
acceleration(km/min^2)
variable
time
1.5
1
0.5
0
-0.5
-1
-1.5
0
0.5
1
1.5
2
2.5
22:09
20/11/2017

## QUESTION 4c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New
Open
Save
Find Files
Compare
Print
Go To
Find
Insert
Comment
Indent
Breakpoints
Run
Run and Advance
Run Section
Advance
Run and Time
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EDIT
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desktop.ini
HP Photo Creations.lnk
sil1.m
sil2.asv
sil2.m
sil3.m
silver.m
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Editor - C:\Users\mofeoluwa\Desktop\sil3.m
sil1.m
sil2.m
sil3.m
1 – commandwindow
2 – clear
3 – clc
4 – syms x
5 – y = [5*(sin(5*x))^5];
6 – yy = 3.142*(y^2)
7 – yyint = int(yy,0,3.142)
8 – yyintd = double(yyint)
Command Window
yy =
(1571*sin(5*x)^10)/20
yyint =
(4713*sin(1571/25))/5120 - (1571*sin(1571/10))/512000 - (32991*sin(1571/50))/10240 + (1571*sin(3142/25))/40960 - (4713*sin(4713/50))/20480
yyintd =
60.7291
>>
Details
Workspace
Name
Value
x 1x1 sym
y 1x1 sym
yy 1x1 sym
yyint 1x1 sym
yyintd 60.7291
22:30
20/11/2017