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MATRIC NO:16/ENG02/049

QUESTION 1

commandwindow

clear

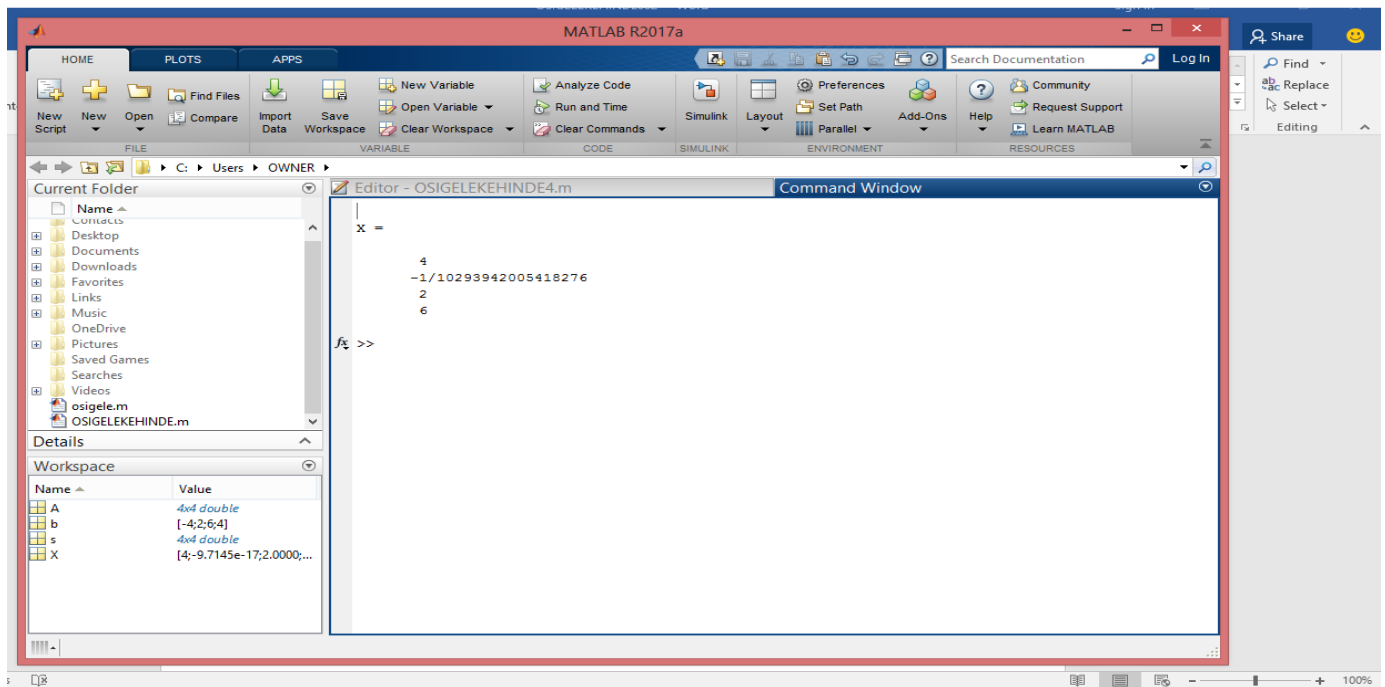
clc

A=[0,10,4,-2; -3,-17,1,2; 1,1,1,0; 8,-34,16,-10];

s=inv(A);

b=[-4; 2; 6; 4];

X=i*b



QUESTION 2

commandwindow

clear

clc

syms t

d=1.5*exp(-0.75*t)*sin(0.85*t)+0.37*t

```
tn=[0:0.01:2.5];
dn=subs(d,tn);
figure(1);
plot(tn,dn)
xlabel('time(min)');
ylabel('difference(km)');
axis tight
grid on
grid minor
figure(2)
v=diff(d);
vn=subs(v,tn);
plot(tn,vn);
xlabel('time(min)');
ylabel('velocity(km/min)');
grid on
grid minor
axis tight
a=diff(v);
an=subs(a,vn);
figure(3)
plot(tn,an);
xlabel('time(min)');
ylabel('acceleration(km/min)');
grid on
grid minor
axis tight
```

MATLAB R2017a

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```

1  commandwindow
2  clear
3  clc
4  syms t
5  d=1.5*exp(-0.75*t)*sin(0.85*t)+0.37*t
6  tn=[0:0.01:2.5];
7  dn=subs(d,tn);
8  figure(1);
9  plot(tn,dn)
10 xlabel('time(min)');
11 ylabel('difference(km)');
12 axis tight
13 grid on
14 grid minor
15 figure(2);
16 v=diff(d);
17 vn=subs(v,tn);
18 plot(tn,vn);
19 xlabel('time(min)');
20 ylabel('velocity(km/min)');
21 grid on
22 grid minor
23 axis tight
24 a=diff(v);
25 an=subs(a,vn);
26 figure(3);
27 plot(tn,an);
28 xlabel('time(min)');
29 ylabel('acceleration(km/min)');

```

Command Window

```

d =
(37*t)/100 + (3*sin((17*t)/20)*exp(-(3*t)/4))/2
>>

```

Workspace

Name	Value
a	1x1 sym
an	1x251 sym
d	1x1 sym
dn	1x251 sym
t	1x1 sym
tn	1x251 double
v	1x1 sym
vn	1x251 sym

TEST - Com... Word

Figure 1

difference(km)

time(min)

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