

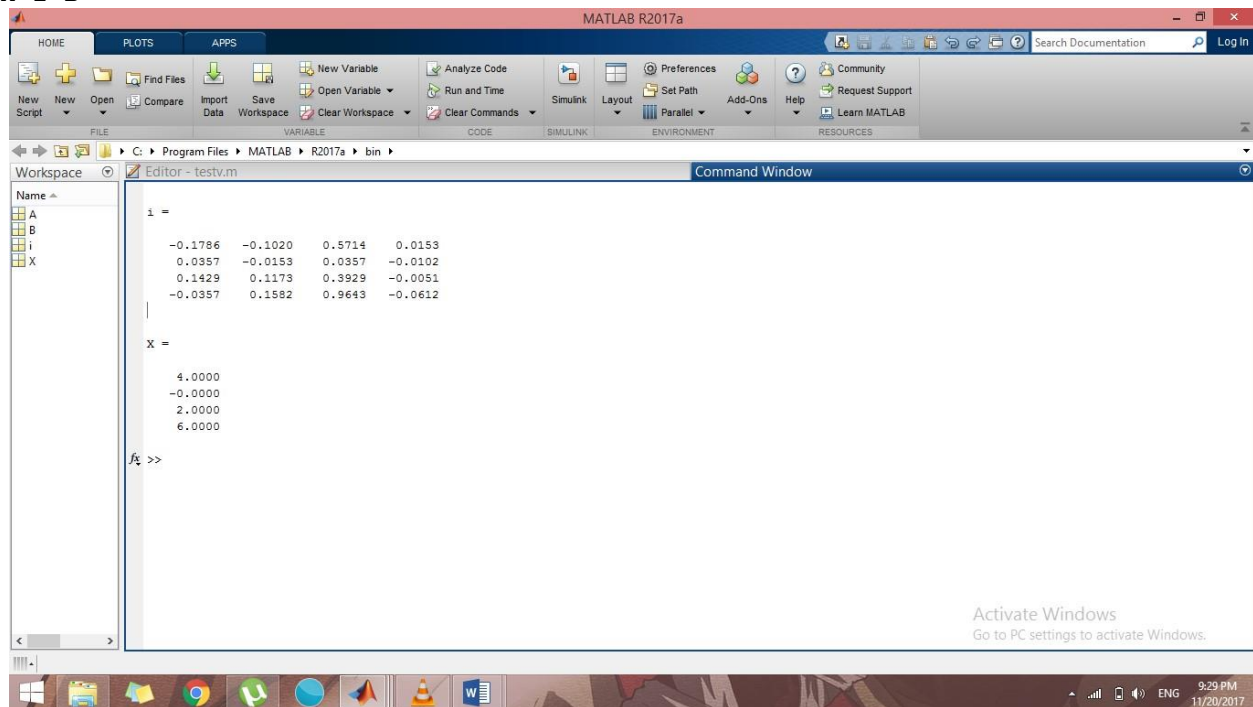
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QUESTION 1

```
commandwindow
clear clc
A=[0,10,4,-2;-3,-17,1,2;1,1,1,0;8,-34,16,-10];
B=[-4;2;6;4];
i=inv(A)
X=i*B
```



The screenshot shows the MATLAB R2017a interface. The Command Window displays the following output:

```
i =
    -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

X =
     4.0000
    -0.0000
     2.0000
     6.0000

fx >>
```

The Workspace window on the left shows the following variables:

- A
- B
- i
- X

QUESTION 2

```
commandwindow
clear clc
close all
syms t
d = 1.5 * exp(-0.75* t) * sin(0.85* t)+0.375 * t;
tn=[0:0.01:2.5]; v = diff(d); vn = subs(v,tn);
figure(1) plot(tn,vn) xlabel("time(minutes)")
ylabel("velocity") title("velocity
against time graph") grid on grid minor
a = diff(v); an = subs(a,tn);
figure(2) plot(tn,an)
xlabel("time(minutes)")
ylabel("acceleration")
```

```
title("acceleration against time graph")
grid on grid minor
figure(3) plot(tn,an,tn,vn)
xlabel("time(minutes)")
ylabel("velocity/acceleration")
title("velocity/acceleration against time graph")
grid on grid minor
```

