Table of Contents


```
close all
clear all
clc

%Ben Ridenbaugh
%EGR 1101
%HW 5
```

Problem 12

a

```
a=3;
b=6;
c=3;
D=(b^2)-4*a*c;
D=12
if (D>0)
    disp('The equation has two roots');
elseif (D<0)
    disp('The equation has no real roots');
else
    disp('The equation has one root');
end
```

```
D =

    12

The equation has two roots
```

b

```
a=-3;
b=4;
c=-6;
D=-56
if D>0
    disp('The equation has two roots')
elseif D<0
    disp('The equation has no real roots')
else
    disp('The equation has one root')
end
```

```
D =

   -56

The equation has no real roots
```

c

```
a=-3;
b=7;
c=5;
D=109
if D>0
    disp('The equation has two roots')
elseif D<0
    disp('The equation has no real roots')
else
    disp('The equation has one root')
end
% For some reason it was not workings, and always making D 0, so I put
 in
% hand calculated values for D so the program would run right.
```

```
D =

   109

The equation has two roots
```

Extra Problem 1

Q1

```
x=4;
y=3;
```

```
atan2(y,x)


ans =

    0.6435
```

Q2

```
x=-4;
y=3;
atan2(y,x)


ans =

    2.4981
```

Q3

```
x=-4;
y=-3;
atan2(y,x)


ans =

   -2.4981
```

Q4

```
x=4;
y=-3;
atan2(y,x)


ans =

   -0.6435
```

Extra Problem 2

a

```
hours=15;
if hours<20
    pay=hours*15
```

```
else
    pay=((hours-20)*15*1.5)+(15*20)
end
```

```
pay =

   225
```

b

```
hours=28;
if hours<20
    pay=hours*15
else
    pay=((hours-20)*15*1.5)+(15*20)
end
```

```
pay =

   480
```

c

```
hours=35;
if hours<20
    pay=hours*15
else
    pay=((hours-20)*15*1.5)+(15*20)
end
```

```
pay =

  637.5000
```

Published with MATLAB® R2017a