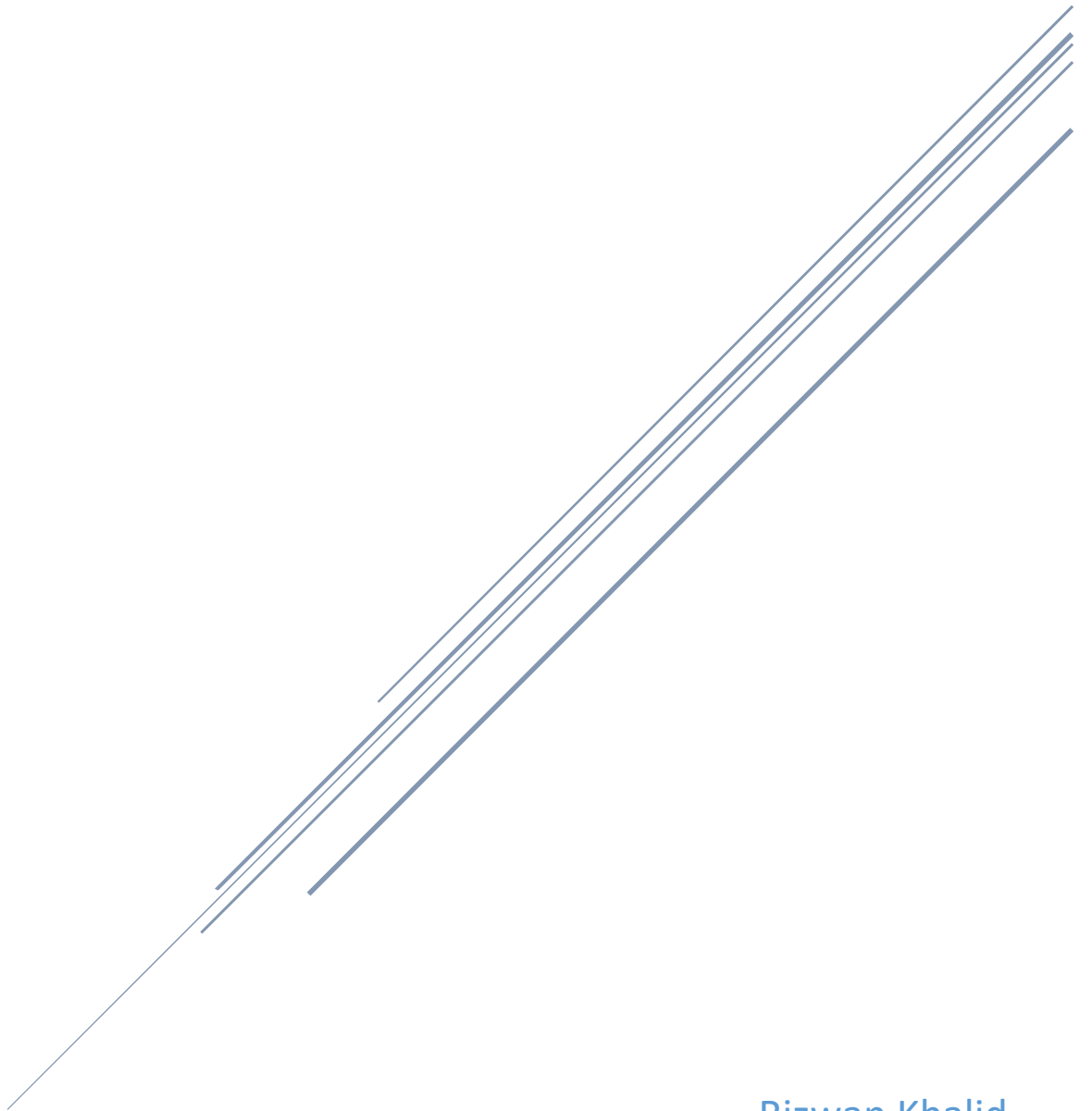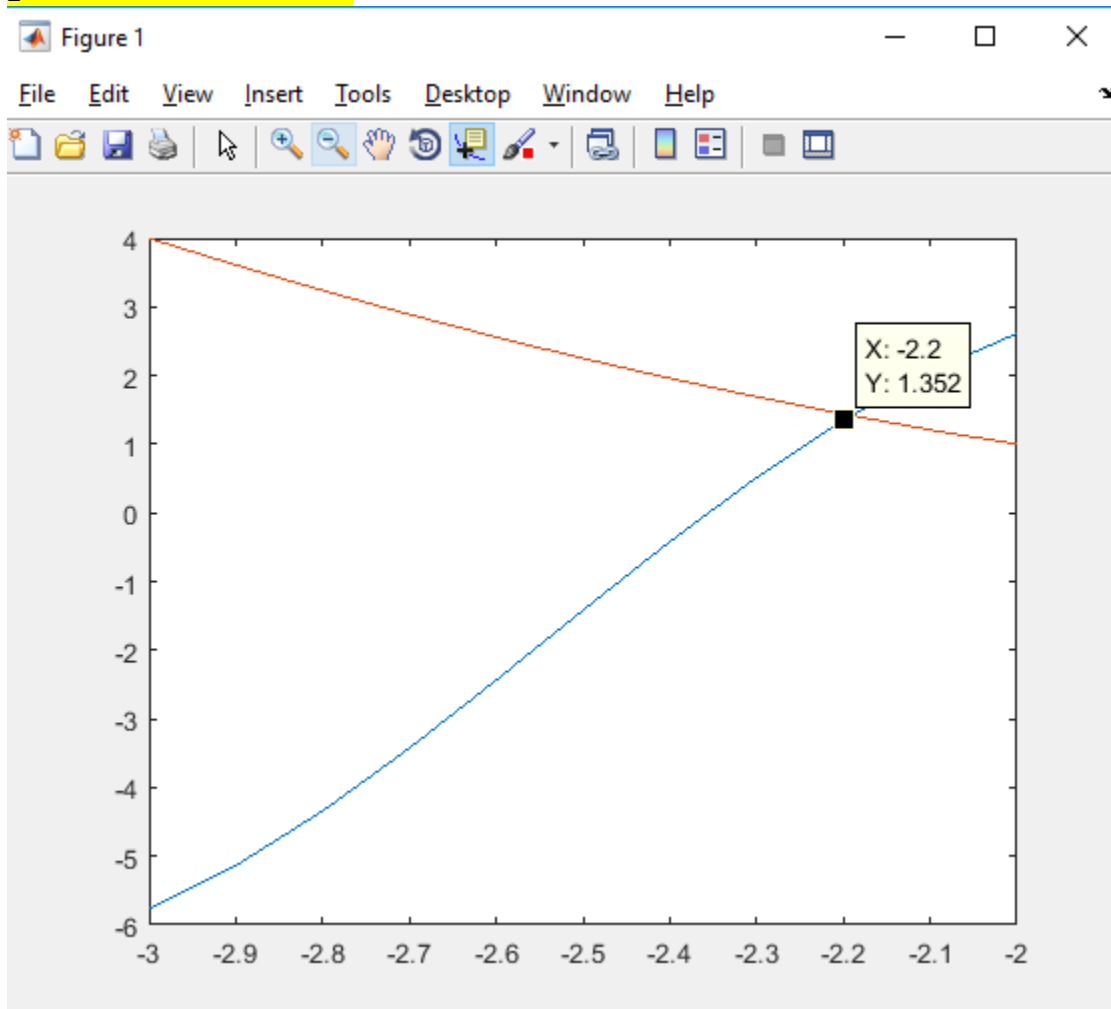# NUMERICAL ANALYSIS

Lab 2

Rizwan Khalid

180459

Task 1:

```
Y=-3:.1:-2;
fUN1 = 2*Y.*cos(2*Y);
fUN2 = (Y+1).^2;
plot(Y,fUN1)
hold on
plot(Y,fUN2)
```
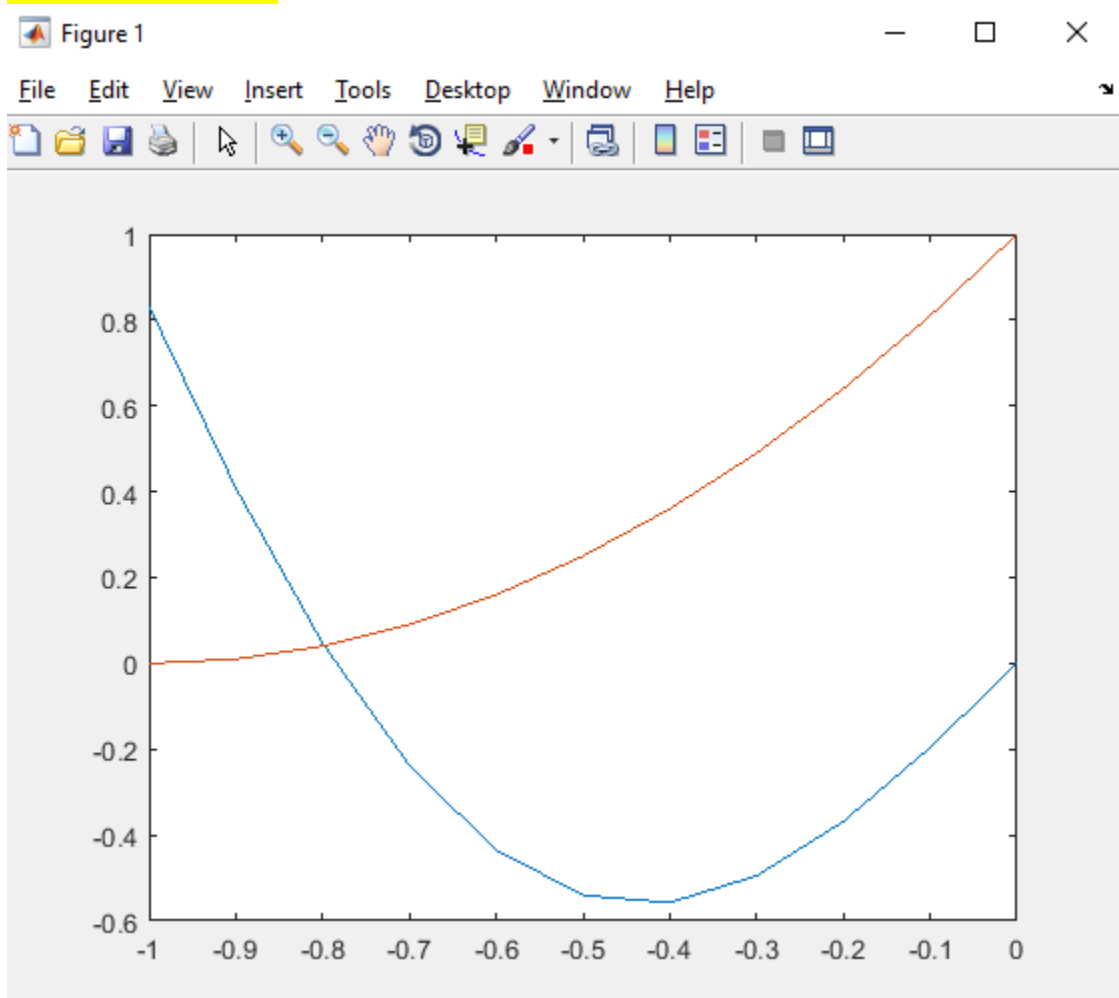


```
>> p = @(Y) 2*Y.*cos(2*Y) - (Y+1).^2;

>> P= fzero(p,[-3 -2])
```

```
P =

   -2.1913
```

```
Y=-1:.1:0;
fUN1 = 2*Y.*cos(2*Y);
fUN2 = (Y+1).^2;
plot(Y,fUN1)
hold on
plot(Y,fUN2)
```

P= fzero(p,[-1 0])

```
P =

    -0.7982
```

Task 2:

```
syms y;
P1=taylor(cos(y),'Order',3);
P2=taylor(cos(y),'Order',5);
P3=taylor(cos(y),'Order',7);
fplot([cos(y) P1 P2 P3])
```