**Optimization Techniques**

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**5 TH SEM CE SHIFT 2**

**PRACTICAL 13:** Represent Primal and Dual of one of two LPP problem given earlier in graph with manual conversion.

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**Primal Problem:**

Z=(0.09\*X)+(0.15\*Y)

9\*X+15\*Y >=6000000

5\*X+15\*Y <=3000000

Where x,y>=0

[X,Y]=meshgrid(0:100);

>> Z=(0.09\*X)+(0.15\*Y);

>> contour(X,Y,Z,40);

>> hold on;

>> XX=[0:5:50];

>> YY1=f1(XX);

>> YY2=f2(XX);

>> plot(XX,XX,YY1,YY2,1,1,'033','',[2 4 8 12]);

>>title('Plotting Primal');

CODE IN f1.m:

function X=f1(Y)

X=((6000000-15\*Y)/9);

endfunction

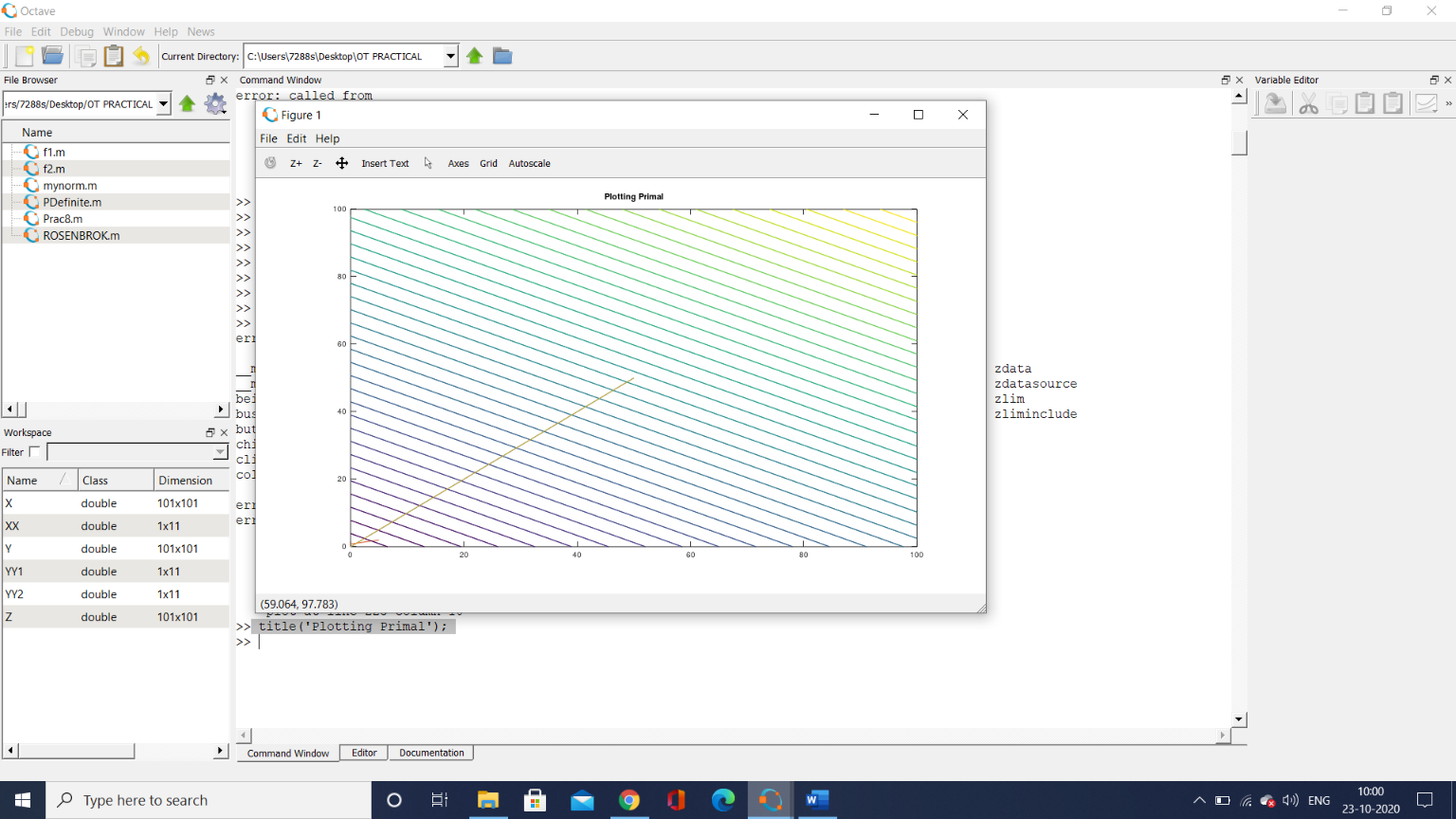
CODE IN f2.m:

function X=f2(Y)

X=((3000000-8\*Y)/5);

endfunction

OUTPUT:



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**Dual Problem:**

Z=(0.09\*X)+(0.15\*Y)

9\*X+15\*Y >=6000000

5\*X+15\*Y <=3000000

Where x,y>=0

[X,Y]=meshgrid(0:100);

>> Z=(0.09\*X)+(0.15\*Y);

>> contour(X,Y,Z,40);

>> hold on;

>> XX=[0:5:50];

>> YY1=f1(XX);

>> YY2=f2(XX);

>> plot(XX,XX,YY1,YY2,1,1,'035','',[2 4 8 12]);

>>title('Plotting Dual');

CODE IN fd1.m:

function X=fd1(Y)

X=((6000000-9\*Y)/15);

endfunction

CODE IN fd2.m:

function X=fd2(Y)

X=((3000000-5\*Y)/8);

endfunction

OUTPUT:

