**PRACTICAL NO: 8(A)**

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Name :

Roll No:

Aim : Solution of LPP by Simplex method.

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1)Solve following lpp using simplex method and using scilab.

Maximize Z=40x1+50x2

Subject to 2x1+3x2<=60

4x1+3x2<=96

x1>=0,x2>=0

**OUTPUT:**

-->c=[-40;-35;0;0];

-->A=[2,3,1,0;4,3,0,1];

-->b=[60;96];

-->[xopt,fopt,exitflag,iter]=karmarkar(A,b,c)

iter =

66.

exitflag =

1.

fopt =

- 999.99414

xopt =

18.000264

7.9995312

0.0008789

2).Solve following lpp using simplex method and using scilab.

Maximize Z=3x+5y

Subject to x+2y<=10

2x+y<=11

x>=0,y>=0

**OUTPUT:**

-->c=[-3;-5;0;0];

-->A=[1,2,1,0;2,1,0,1];

-->b=[10;11];

-->[xopt,fopt,exitflag,iter]=karmarkar(A,b,c)

iter =

67.

exitflag =

1.

fopt =

- 26.999815

xopt =

3.9998278

3.0000662

0.0000397

0.0002782

3).Solve following lpp using simplx method and using scilab.

Maximise Z=5x1+10x2+8x3

Subject to

3x1+5x2+2x3 60

4x1+4x2+4x3 72

2x1+4x2+5x3 100

x10, x20, x30

**OUTPUT:**

-->c=[-5;-10;-8;0;0;0];

-->A=[3,5,,2,1,0,0;4,4,4,0,1,0;2,4,5,0,0,1]

A =

3. 5. 2. 1. 0. 0.

4. 4. 4. 0. 1. 0.

2. 4. 5. 0. 0. 1.

-->b=[60;72;100];

-->[xopt,fopt,exitflag,iter]=karmarkar(A,b,c)

iter =

66.

exitflag =

1.

fopt =

- 159.9992

xopt =

0.0000728

7.9998689

10.000018

0.0004005

0.0001602

4).Solve following lpp using simplx method and using scilab.

Maximise Z=150x+100y

Subject to

8x+5y 60

4x+5y 40

x10, x20

**OUTPUT:**

c=[-150;-100;0;0];

-->A=[8,5,1,0;4,5,0,1];

-->b=[60;40];

-->[xopt,fopt,exitflag,iter]=karmarkar(A,b,c)

iter =

64.

exitflag =

1.

fopt =

- 1149.9896

xopt =

5.0004463

3.9992265

0.0002975

0.0020825

5).Solve following lpp using simplex method and using scilab.

Maximize Z=3x+5y

Subject to 2x+3y>=12

-x+y<=3

X<=4

y>=3

x>=0,y>=0

**OUTPUT:**

-->A=[-2,-3,1,0,0,0;-1,1,0,1,0,0;1,0,0,0,1,0;0,-1,0,0,0,1];

-->c=[3;5;0;0;0;0];

-->b=[-12;3;4;3];

-->[xopt,fopt,exitflag,iter]=karmarkar(A,b,c)

iter =

67.

exitflag =

1.

fopt =

18.666846

xopt =

3.9997304

1.333531

0.0000539

5.6661994

0.0002696

4.333531