LAB-12

Simplex Tabular:

```
def pri():
    temp=0
    z=[]
    for i in range(2,7):
        temp=(l[1][0]*l[1][i])+(l[2][0]*l[2][i])
        z.append(temp)
    print(z)
    print(l)
    sub=[]
    temp=0
    k=0
    for i in range(2,6):
        temp=l[0][i]-z[k]
        k=k+1
        sub.append(temp)
    print(sub)
    c=0
    for i in range(0,len(sub)):
        if(sub[i]<=0):
            c=c+1
    if(len(sub)==c):
        print("x",l[1][1],l[1][6])
        print("x",l[2][1],l[2][6])
        print("z",z[4])
        return
    enter=2+sub.index(max(sub))
    theta1=l[1][6]/l[1][enter]
    theta2=l[2][6]/l[2][enter]
    if(theta1<theta2):
        leave=1
        asit=2
    else:
```

```
        leave=2
        asit=1
    keyele=l[leave][enter]
    keycol=l[asit][enter]
    l[leave][0]=l[0][enter]
    l[leave][1]=enter-1
    for i in range(2,7):
        l[asit][i]=l[asit][i]-((keycol*l[leave][i])/keyele)
    for i in range(2,7):
        l[leave][i]=l[leave][i]/keyele
    print("cj-zj",sub)
    print(l)
    pri()

l=[]
for i in range(0,3):
    x=[int(x) for x in input().split(' ')]
    l.append(x)
pri()
```

```
pri()
```

```
0 0 6 5 0 0 0
0 3 1 1 1 0 5
0 4 3 2 0 1 12
[0, 0, 0, 0, 0]
[[0, 0, 6, 5, 0, 0, 0], [0, 3, 1, 1, 1, 0, 5], [0, 4, 3, 2, 0, 1, 12]]
[6, 5, 0, 0]
cj-zj [6, 5, 0, 0]
[[0, 0, 6, 5, 0, 0, 0], [0, 3, 0.0, 0.33333333333333337, 1.0, -0.3333333333333333, 1.0], [6, 1, 1.0, 0.6666666666666666, 0.0,
0.3333333333333333, 4.0]]
[6.0, 4.0, 0.0, 2.0, 24.0]
[[0, 0, 6, 5, 0, 0, 0], [0, 3, 0.0, 0.33333333333333337, 1.0, -0.3333333333333333, 1.0], [6, 1, 1.0, 0.6666666666666666, 0.0,
0.3333333333333333, 4.0]]
[0.0, 1.0, 0.0, -2.0]
cj-zj [0.0, 1.0, 0.0, -2.0]
[[0, 0, 6, 5, 0, 0, 0], [5, 2, 0.0, 1.0, 2.9999999999999996, -0.9999999999999999, 2.9999999999999996], [6, 1, 1.0, 0.0, -1.9999
999999999998, 0.9999999999999998, 2.0]]
[6.0, 5.0, 3.0, 0.9999999999999991, 27.0]
[[0, 0, 6, 5, 0, 0, 0], [5, 2, 0.0, 1.0, 2.9999999999999996, -0.9999999999999999, 2.9999999999999996], [6, 1, 1.0, 0.0, -1.9999
999999999998, 0.9999999999999998, 2.0]]
[0.0, 0.0, -3.0, -0.9999999999999991]
x 2 2.9999999999999996
x 1 2.0
z 27.0
```

Conclusion:

In this way we can solve linear program using Simplex Tabular method.