In [5]:
```
from pulp import*
```

In [4]:
```
pip install pulp
```

```
0:05
     ------------                             5.4/17.7 MB 2.7 MB/s eta 0:0
0:05
     ------------                             5.4/17.7 MB 2.6 MB/s eta 0:0
0:05
     ------------                             5.5/17.7 MB 2.6 MB/s eta 0:0
0:05
     ------------                             5.6/17.7 MB 2.5 MB/s eta 0:0
0:05
     ------------                             5.7/17.7 MB 2.5 MB/s eta 0:0
0:05
     -------------                            5.8/17.7 MB 2.5 MB/s eta 0:0
0:05
     -------------                            5.9/17.7 MB 2.5 MB/s eta 0:0
0:05
     -------------                            6.0/17.7 MB 2.5 MB/s eta 0:0
0:05
     -------------                            6.1/17.7 MB 2.5 MB/s eta 0:0
0:05
     -------------                            6.2/17.7 MB 2.5 MB/s eta 0:0
```

In [6]:

In [8]:

In [9]:

In [ ]:

In [ ]:

In [ ]:

In [6]:
```
#q3
prob = LpProblem("Simple LP problem",LpMinimize)
x11= LpVariable("x11",0)
x12= LpVariable("x12",0)
x13= LpVariable("x13",0)
x21= LpVariable("x21",0)
x22= LpVariable("x22",0)
x23= LpVariable("x23",0)
x31= LpVariable("x31",0)
x32= LpVariable("x32",0)
x33= LpVariable("x33",0)
```

```
C:\Users\acer\anaconda3\Lib\site-packages\pulp\pulp.py:1316: UserWarning: Spa
ces are not permitted in the name. Converted to '_'
  warnings.warn("Spaces are not permitted in the name. Converted to '_'")
```

In [8]:
```
prob+= x11+x12+x13<=1
prob+= x21+x22+x23<=1
prob+= x31+x32+x33<=1
```

In [15]:
```
prob+= x11+x21+x31==1
prob+= x12+x22+x32==1
prob+= x13+x23+x33==1
```

In [16]:
```
prob+= 10*x11+15*x12+9*x13+9*x21+18*x22+5*x23+6*x31+14*x32+3*x33
```

```
C:\Users\acer\anaconda3\Lib\site-packages\pulp\pulp.py:1668: UserWarning: Ove
rwriting previously set objective.
  warnings.warn("Overwriting previously set objective.")
```

In [17]:
```
prob.solve()
```

Out[17]:
```
1
```

In [18]:
```
for v in prob.variables():
    print(v.name,"m",v.varValue)
```

```
x11 m 0.0
x12 m 1.0
x13 m 0.0
x21 m 0.0
x22 m 0.0
x23 m 1.0
x31 m 1.0
x32 m 0.0
x33 m 0.0
```

In [19]:
```
print("The optimal value is :",value(prob.objective))
```

```
The optimal value is : 26.0
```

In [ ]: