In [1]:
```
import sys
!{sys.executable} -m pip install pulp
```

```
Requirement already satisfied: pulp in c:\users\muntakim\appdata\local\programs\python\p
ython38-32\lib\site-packages (2.4)
Requirement already satisfied: amply>=0.1.2 in c:\users\muntakim\appdata\local\programs
\python\python38-32\lib\site-packages (from pulp) (0.1.4)
Requirement already satisfied: pyparsing in c:\users\muntakim\appdata\local\programs\pyt
hon\python38-32\lib\site-packages (from amply>=0.1.2->pulp) (2.4.7)
Requirement already satisfied: docutils>=0.3 in c:\users\muntakim\appdata\local\programs
\python\python38-32\lib\site-packages (from amply>=0.1.2->pulp) (0.17.1)
```

In [2]:
```
import pulp
```

In [3]:
```
# Create a LP maximization problem.
LP_prob = pulp.LpProblem('Your_LP_Problem', pulp.LpMaximize)
```

In [4]:
```
# Create Decision Variables.
x = pulp.LpVariable('x')
y = pulp.LpVariable('y')
```

In [5]:
```
# Add Objective Function to LP problem.
LP_prob += 3*x+5*y+5

# Then add Constraints.
LP_prob += 2*x+3*y <= 12
LP_prob += -x+y <= 3
LP_prob += x <= 4
LP_prob += y <= 3
LP_prob += 2*y <= 25-x
LP_prob += 4*y >= 2*x-8
LP_prob += y <= 2*x-5
LP_prob += x >= 0
LP_prob += y >= 0
```

In [6]:
```
# Display the LP problem.
print(LP_prob)
```

```
Your_LP_Problem:
MAXIMIZE
3*x + 5*y + 5
SUBJECT TO
_C1: 2 x + 3 y <= 12

_C2: - x + y <= 3

_C3: x <= 4

_C4: y <= 3

_C5: x + 2 y <= 25

_C6: - 2 x + 4 y >= -8
```

```
_C7: - 2 x + y <= -5

_C8: x >= 0

_C9: y >= 0

VARIABLES
x free Continuous
y free Continuous
```

In [7]:
```
LP_prob.solve()
pulp.LpStatus[LP_prob.status]
```

Out[7]:
```
'Optimal'
```

In [8]:
```
print("x = ", pulp.value(x))
print("y = ", pulp.value(y))
print("z = ", pulp.value(LP_prob.objective))
```

```
x =  3.375
y =  1.75
z =  23.875
```

In [9]:
```
for variable in LP_prob.variables() :
    print(variable.name, " = ", variable.varValue)
if (pulp.LpStatus[LP_prob.status] == 'Optimal') :
    print('Optimal Value : z = ', pulp.value(LP_prob.objective))
else :
    print('No Optimal Value. Status Code : ', pulp.value(LP_prob.objective))
```

```
x  =  3.375
y  =  1.75
Optimal Value : z =  23.875
```