Simplex method using 2 variables

- Maximize the following:

$$z = 3x + 2y$$

w.r.t:

$$x + y \leq 4$$

$$x - y \leq 2$$

$$x, y \geq 0$$

In [1]:
```
from scipy.optimize import linprog

obj = [-3, -2]
lhs_ineq = [[1, 1],
            [1, -1]]

rhs_ineq = [4,
            2]

bound = [(0, float("inf")),
         (0, float("inf"))]
```

In [2]:
```
z = linprog(c = obj, A_ub = lhs_ineq, b_ub = rhs_ineq,
            bounds = bound, method = "revised simplex")

z
```

Out[2]:
```
     con: array([], dtype=float64)
     fun: -11.0
 message: 'Optimization terminated successfully.'
     nit: 2
   slack: array([0., 0.])
  status: 0
 success: True
       x: array([3., 1.])
```

In [3]:
```
print(z.fun)
print(z.success)
print(z.x)
```

```
-11.0
True
[3. 1.]
```

In [ ]:
```

```