Assignment 3 - Water Jug Problem

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In [1]:

```
x = 0
y = 0
m = 4
n = 3
```

In [2]:

```
print("Initial state = (0,0)")
print("Capacities = (4,3)")
print("Goal state = (2,y)")
```

```
Initial state = (0,0)
Capacities = (4,3)
Goal state = (2,y)
```

In [3]:

```
while x != 2:
  r = input("RULES\n\n1. Fill X\n2. Fill Y\n3. Empty X\n4. Empty Y\n5. Fill Y from X\n6.
  r = int(r)
  if(r == 1):
    x = m
  elif(r == 2):
    y = n
  elif(r == 3):
    x = 0
  elif(r == 4):
    y = 0
  elif(r == 5):
    t = n - y
    y = n
    x -= t
  elif(r == 6):
    t = m - x
    x = m
    y -= t
  elif(r == 7):
    y += x
    x = 0
  elif(r == 8):
    x += y
    y = 0
  print (x, y)
```

```
RULES

1. Fill X
2. Fill Y
3. Empty X
4. Empty Y
5. Fill Y from X
6. Fill X from Y
7. Transfer from X to Y
8. Transfer from Y to X

Enter rule: 2
0 3
RULES

1. Fill X
2. Fill Y
3. Empty X
4. Empty Y
5. Fill Y from X
6. Fill X from Y
7. Transfer from X to Y
8. Transfer from Y to X

Enter rule: 8
3 0
RULES

1. Fill X
2. Fill Y
3. Empty X
4. Empty Y
5. Fill Y from X
6. Fill X from Y
7. Transfer from X to Y
8. Transfer from Y to X

Enter rule: 2
3 3
RULES

1. Fill X
2. Fill Y
3. Empty X
4. Empty Y
5. Fill Y from X
6. Fill X from Y
7. Transfer from X to Y
8. Transfer from Y to X

Enter rule: 6
4 2
RULES

1. Fill X
2. Fill Y
3. Empty X
4. Empty Y
5. Fill Y from X
6. Fill X from Y
7. Transfer from X to Y
```

```
8. Transfer from Y to X

Enter rule: 3
0 2
RULES

1. Fill X
2. Fill Y
3. Empty X
4. Empty Y
5. Fill Y from X
6. Fill X from Y
7. Transfer from X to Y
8. Transfer from Y to X

Enter rule: 8
2 0
```

In [ ]: