EXPERIMENT:03 Write the python program for Water Jug Problem

PROGRAM:

```
from collections import deque


def water_jug(x, y, target):
    visited = set()
    q = deque([(0, 0)])
    while q:
        a, b = q.popleft()
        if (a, b) in visited: continue
        visited.add((a, b))
        print(a, b)
        if a == target or b == target: return
        q.extend([(x, b), (a, y), (0, b), (a, 0),
                  (min(a+b, x), max(0, a+b-x)),
                  (max(0, a+b-y), min(a+b, y))])


water_jug(4, 3, 2)
```

OUTPUT: