```
# En A0 A1| O0 O1 O2 O3 | Expected Output
# 0  0  0 |  0  0  0  0 | All false
# 0  1  0 |  0  0  0  0 | All false
# 0  0  1 |  0  0  0  0 | All false
# 0  1  1 |  0  0  0  0 | All false
# 1  0  0 |  1  0  0  0 | O0 Only
# 1  1  0 |  0  1  0  0 | O1 Only
# 1  0  1 |  0  0  1  0 | O2 Only
# 1  1  1 |  0  0  0  1 | O3 Only
# A   B  CI| SUM CO | Expected Output
# 0  0  0 |  0  0  | 0
# 1  0  0 |  1  0  | 1
# 0  1  0 |  1  0  | 1
# 1  1  0 |  0  1  | 2
# 0  0  1 |  1  0  | 1
# 1  0  1 |  0  1  | 1
# 0  1  1 |  0  1  | 2
# 1  1  1 |  1  1  | 3
# I0 I1 I2 I3 A0 A1| OUT | Expected Output
# 0  X  X  X  0  0 |  0 | I0
# 1  X  X  X  0  0 |  1 | I0
# X  0  X  X  1  0 |  0 | I1
# X  1  X  X  1  0 |  1 | I1
# X  X  0  X  0  1 |  0 | I2
# X  X  1  X  0  1 |  1 | I2
# X  X  X  0  1  1 |  0 | I3
# X  X  X  1  1  1 |  1 | I3
```