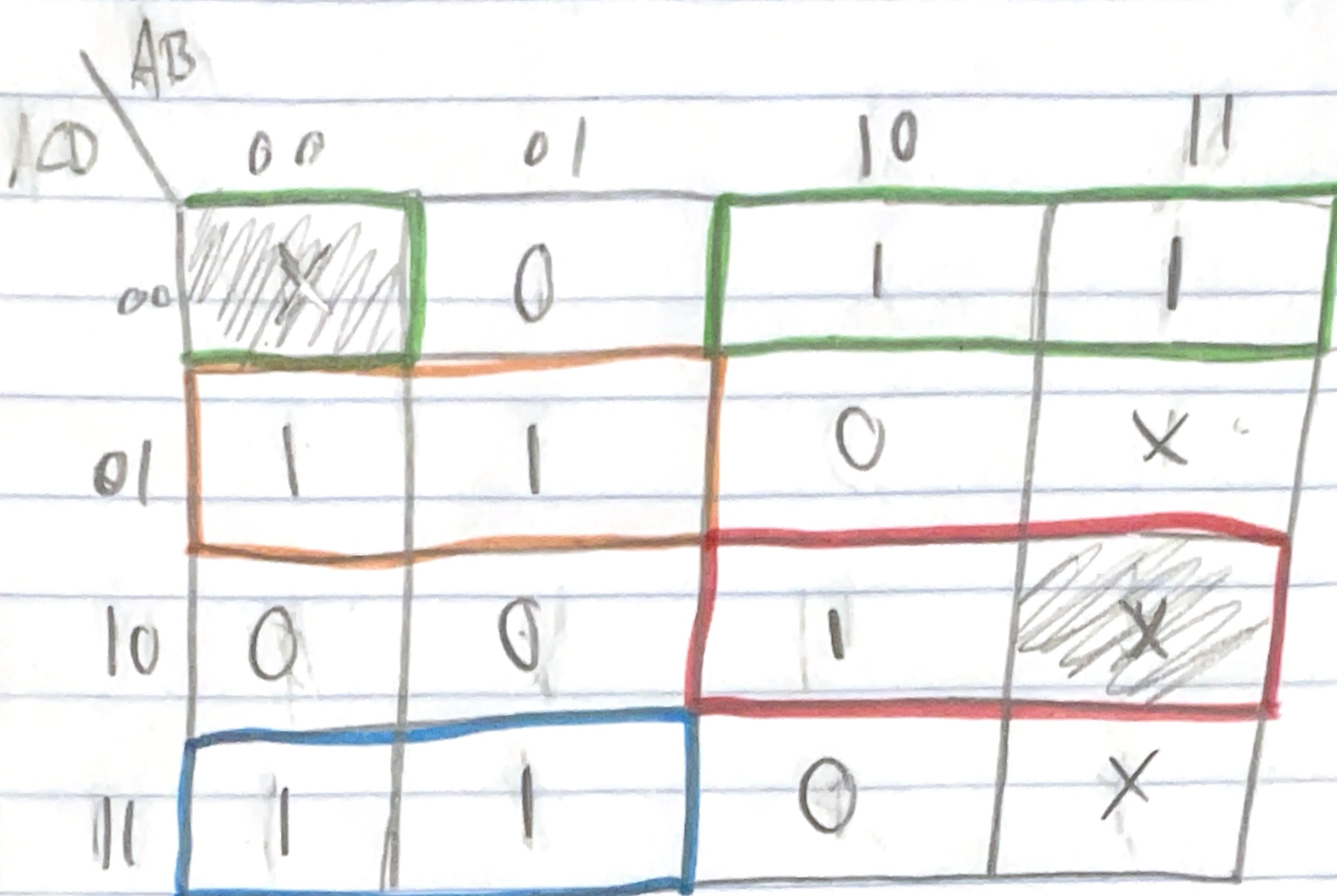


# Karnaugh Maps (K-Maps)



$$ACD + \bar{A}\bar{C}D$$

$$Y = \bar{C}D(\bar{A}\bar{B} + A\bar{B}) + \bar{C}D(\bar{A}\bar{B} + \bar{A}B) + AB\bar{C}D$$

$$+ \bar{C}D(\bar{A}\bar{B} + \bar{A}B)$$

$$\bar{A}\bar{C}D$$

$$= \underline{\bar{A}\bar{C}D} + \bar{A}\bar{C}D + \underline{AB\bar{C}D} + \bar{A}\bar{C}D$$

$$= \bar{A}\bar{C}D + A\bar{B}\bar{C}D + \bar{A}\bar{C}D + \bar{A}B\bar{D}$$

$$= A\bar{D}(\bar{C} + \bar{B}C)$$

$$= A\bar{D}\bar{C} + A\bar{D}\bar{B} + \bar{A}\bar{D}$$

↓  
Simplified

$$Y = \bar{A}\bar{D} + A\bar{B}\bar{D} + A\bar{C}\bar{D}$$