

| AB CD | 00 | 01 | 11 | 10 |
|----------|----------|----------|----------|----------|
| 00 | 1 | | | 1 |
| 01 | | 1 | 1 | |
| 11 | 1 | 1 | 1 | 1 |
| 10 | | 1 | 1 | |

$$Y = BCD' + B'CD + BC'D + B'C'D' + CD =$$

$$Y = B(CD' + C'D) + B'(CD + C'D') + CD$$

$$C(+)D \quad (C(+)D)'$$

$$X \quad X'$$

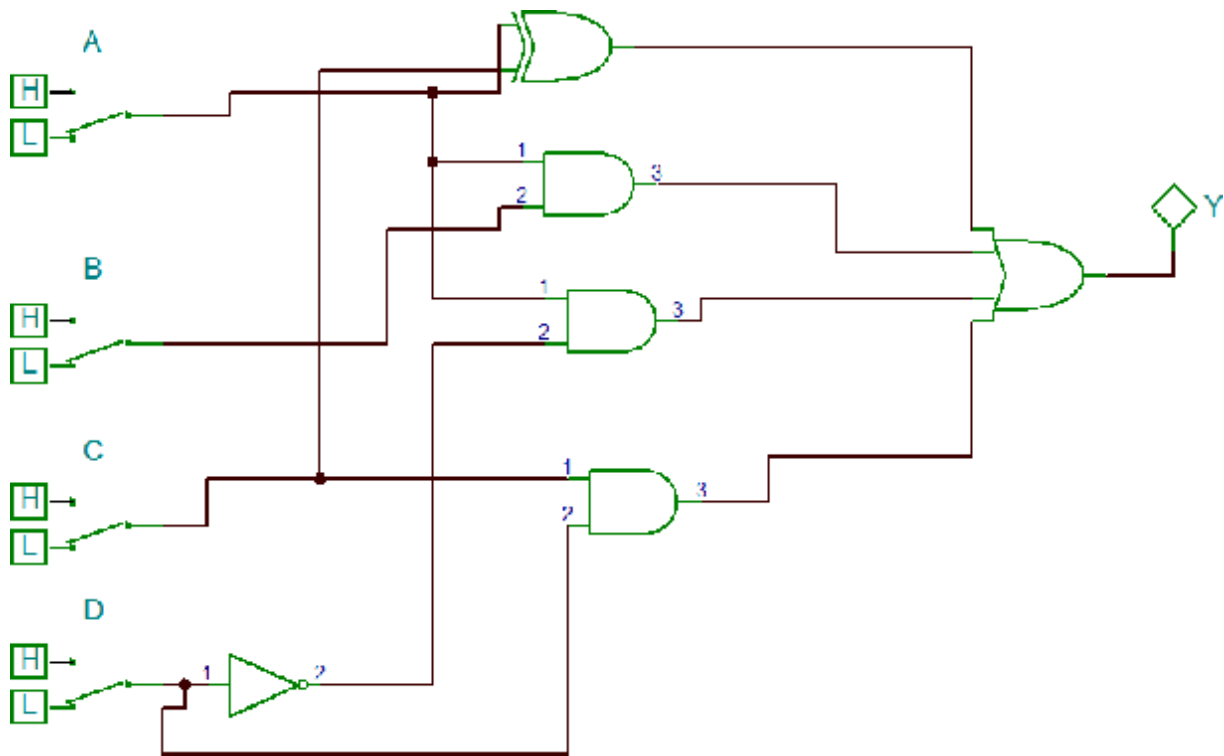
$$Y1 = BX + B'X' + CD = (B(+)X)' + CD = (B(+)C(+)D)' + CD$$

$$Y2 = (B(+)C(+)D)' + BC$$

$$Y3 = (B(+)C(+)D)' + BD$$

| AB | 00 | 01 | 11 | 10 |
|----|----------|----------|----------|----------|
| CD | | | | |
| 00 | 1 | 1 | 0 | 1 |
| 01 | 1 | 1 | 1 | 1 |
| 11 | 1 | 1 | 1 | 1 |
| 10 | 1 | 1 | 1 | 1 |

$$Y' = ABC'D' \rightarrow Y = (ABC'D')' = A'+B'+C+D$$



$$= A' + B' + C + D$$

$$Y = A(+)C + AB + AD' + CD$$

$$Y = A'C + AC' + AB + AD' + CD(1+A)$$

$$Y = A'C + AC' + AB + AD' + CD + ACD$$

$$Y = A(C' + D' + CD + B) + A'C + CD$$

$$Y = A[(CD)' + CD + B] = A(1+C) + A'C + CD =$$

$$Y = A + AC + A'C + CD = A + C(A+A'+D) = A + C$$

$$Y = A'C + AC' + AB + AD' + CD$$

| AB | 00 | 01 | 11 | 10 |
|----|----------|----------|----------|----------|
| CD | | | | |
| 00 | | | 1 | 1 |
| 01 | | | 1 | 1 |
| 11 | 1 | 1 | 1 | 1 |
| 10 | 1 | 1 | 1 | 1 |

$$Y = A + C$$