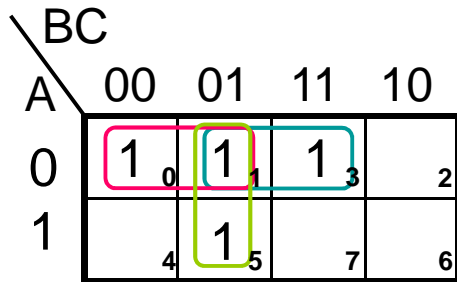
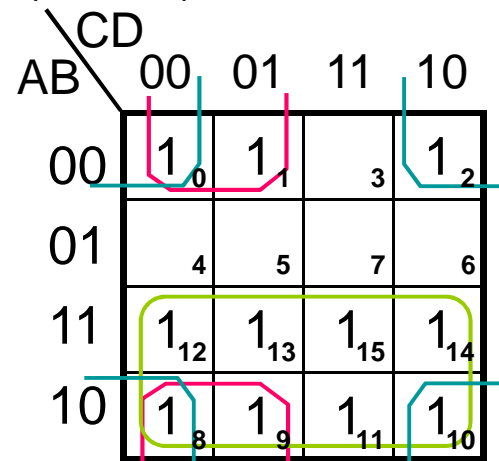


# Assignment #5 solutions

3.1a  $f(A,B,C) = \bar{A}\bar{B} + \bar{B}C + \bar{A}C$

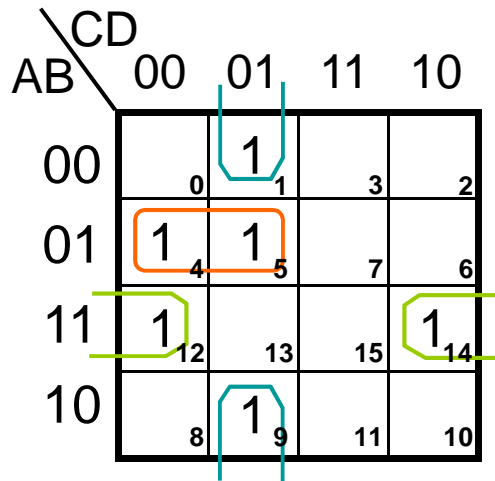


3.2c  $f(A,B,C,D) = \sum m(0,1,2,8,9,10,11,12,13,14,15)$



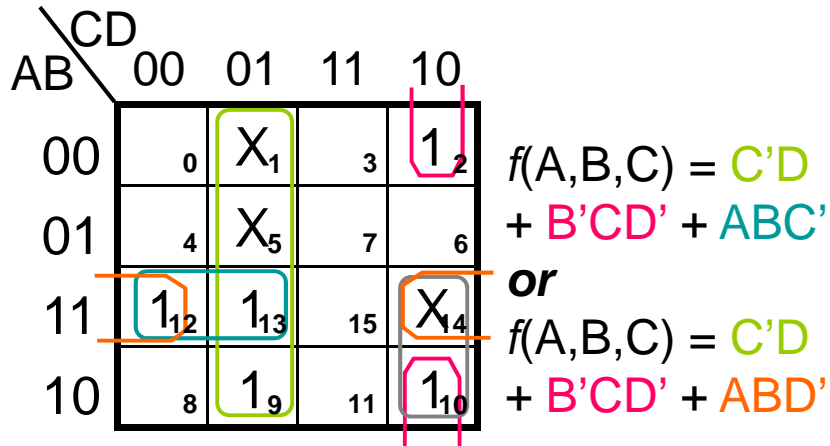
$f(A,B,C,D) = A + B'C' + B'D'$

3.1b  $f(A,B,C,D) = B'C'D + A'BC' + ABD'$

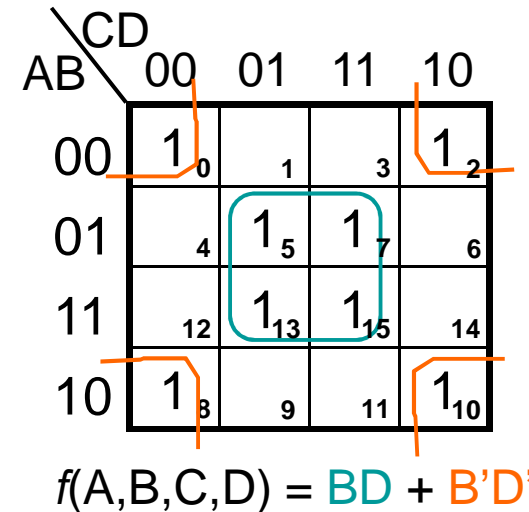


# Assignment #5 solutions

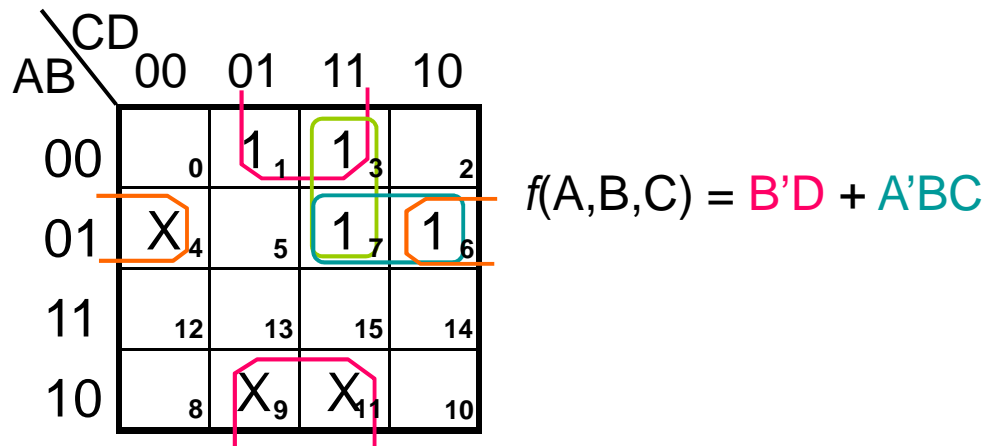
3.3a  $f(A,B,C,D) = \Sigma m(2,9,10,12,13) + d(1,5,14)$



3.32a  $f(A,B,C,D) = \Sigma m(0,2,5,7,8,10,13,15)$



3.3b  $f(A,B,C,D) = \Sigma m(1,3,6,7) + d(4,9,11)$



# Assignment #5 solutions

3.2a  $f(A,B,C) = \Sigma m(3,5,6,7)$

|   |   |    |    |    |    |
|---|---|----|----|----|----|
|   |   | BC |    |    |    |
|   |   | 00 | 01 | 11 | 10 |
| A | 0 | 0  | 1  | 1  | 0  |
|   | 1 | 1  | 1  | 1  | 0  |

$f(A,B,C) = AB + AC + BC$

3.2b  $f(A,B,C,D) = \Sigma m(0,1,4,6,9,13,14,15)$

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

$f(A,B,C,D) = A'B'C' + A'BD' + ABC + AC'D$

or

$f(A,B,C,D) = B'C'D + A'C'D' + BCD' + ABD$

3.2c  $f(A,B,C,D) = \Sigma m(0,1,2,8,9,10,11,12,13,14,15)$

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

$f(A,B,C,D) = A + B'C' + B'D'$