|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Input | | | | Output | | | | | | |
| A | B | C | D | a | b | c | d | e | f | g |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |  |
| 0 | 0 | 0 | 1 |  | 1 | 1 |  |  |  |  |
| 0 | 0 | 1 | 0 | 1 | 1 |  | 1 | 1 |  | 1 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |  |  | 1 |
| 0 | 1 | 0 | 0 |  | 1 | 1 |  |  | 1 | 1 |
| 0 | 1 | 0 | 1 | 1 |  | 1 | 1 |  | 1 | 1 |
| 0 | 1 | 1 | 0 | 1 |  | 1 | 1 | 1 | 1 | 1 |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 |  |  |  |  |
| 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |  | 1 | 1 |
| 1 | 0 | 1 | 0 | X | X | X | X | X | X | X |
| 1 | 0 | 1 | 1 | X | X | X | X | X | X | X |
| 1 | 1 | 0 | 0 | X | X | X | X | X | X | X |
| 1 | 1 | 0 | 1 | X | X | X | X | X | X | X |
| 1 | 1 | 1 | 1 | X | X | X | X | X | X | X |

a = A + C + B’D’ + BD

b = a + CD + B’ + C’D’

c = A + B + C’ + D

d = A + CD’ + B’D’ + B’C + BC’D

e = CD’ + B’D’

f = A + BC’ + BD’ + C’D’

g = A + C’D