|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Inputs | | | | Outputs | | | | | | |
| A | B | C | D | a | b | c | d | e | f | g |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

a = A’C + AB’C’ + A’B’D’ + A’BD

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

b = B’C’ + A’B’ + A’C’D’ + A’CD

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

c = A’D + B’C’ + A’B

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

d = B’C’D’ + A’B’C + A’CD’ + A’BC’D + AB’C’

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

e = B’C’D’ + A’CD’

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

f = A’C’D’ + A’BC’ + AB’C’ + A’BD’

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

g = A’BC’ + AB’C’ + A’B’C + A’CD’

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