|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| diffG | go | P2 | P1 | P0 | N2 | N1 | N0 |
| x | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| x | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| x | x | 0 | 0 | 1 | 0 | 1 | 1 |
| x | x | 0 | 1 | 1 | 0 | 1 | 0 |
| x | x | 0 | 1 | 0 | 1 | 1 | 0 |
| x | x | 1 | 1 | 0 | 1 | 1 | 1 |
| x | x | 1 | 1 | 1 | 1 | 0 | 1 |
| 0 | x | 1 | 0 | 1 | 1 | 0 | 0 |
| 1 | x | 1 | 0 | 1 | 0 | 0 | 0 |

N2 = P2`P1P0` + P2P1P0` + P2P1P0 + P2P1`P0 diffG`

= **P1P0` + P2P0( P1 + P1`diffG` )**

N1 = P2`P1`P0 + P2`P1P0 + P2`P1P0` + P2P1P0`

= **P2`P0 + P1P0`**

N0 = go + P2`P1`P0 + P2P1P0` + P2P1P0

= **go + P2`P1`P0 + P2P1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S2 | S1 | S0 | x\_c | y\_c | z\_c | diff\_c | diff2\_c | mux2s | mux1\_s |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |

x\_c = S2`S1`S0

y\_c = S2`S1`S0

z\_c = S2`S1`S0 + S2S1`S0` = S1`(S2 XOR S0)

diff\_c = S2`S1S0` + S2S1`S0` = S0`(S2 XOR S1)

diff2\_c = S2S1S0

mux2s = S2S1`S0`

mux1s = S2S1`S0`