|  |  |  |
| --- | --- | --- |
| Cases | Inputs (S) | Output (Y) |
| A | 00000 | I0 |
| B | 00001 | I1 |
| C | 00010 | I2 |
| D | 00011 | I3 |
| E | 00100 | I4 |
| F | 00101 | I5 |
| G | 00110 | I6 |
| H | 00111 | I7 |
| I | 01000 | I8 |
| J | 01001 | I9 |
| K | 01010 | I10 |
| L | 01011 | I11 |
| M | 01100 | I12 |
| N | 01101 | I13 |
| O | 01110 | I14 |
| P | 01111 | I15 |
| Q | 10000 | I16 |
| R | 10001 | I17 |
| S | 10010 | I18 |
| T | 10011 | I19 |
| U | 10100 | I20 |
| V | 10101 | I21 |
| W | 10110 | I22 |
| X | 10111 | I23 |
| Y | 11000 | I24 |
| Z | 11001 | I25 |
| A1 | 11010 | I26 |
| B1 | 11011 | I27 |
| C1 | 11100 | I28 |
| D1 | 11101 | I29 |
| E1 | 11110 | I30 |
| F1 | 11111 | I31 |

In the 32 to 32 bit multiplexer, the output (Y) is equal to one of the thirty-two 32 bit values in I0-I31, which is determined by the input S.