|  |  |  |  |
| --- | --- | --- | --- |
| A | B | C | Y |
| 0 | 0 | 0 | 1 |
| 0 | 0 | 1 | 0 |
| 0 | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 |
| 1 | 0 | 0 | 0 |
| 1 | 0 | 1 | 1 |
| 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 0 |

Karnaugh map agrees with the above:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  | 000 | 010 | 110 | 100 |
|  | 001 | 011 | 111 | 101 |

U1: 74HC04, 3xNOT

U2: 74HC08, 3x2AND

U3: 74HC32, 1x2OR

A

B

C

U2-2

U2-1

U2-3

U1-3

U1-1

U1-2

U3-1

Y

NAND Only

A

C

B

U3-3

U1-8

U1-1

U2-2

U1-4

U1-6

U1-7

U1-5

Y

Multiplexer only

**A**

**B**

**C**

**[1]**

**D0**

**D1**

**S**

**OUT**

**[3]**

**D0**

**D1**

**S**

**OUT**

**[4]**

**D0**

**D1**

**S**

**OUT**

**0**

**[2]**

**D0**

**D1**

**S**

**OUT**

**1**

**0**

**[5]**

**D0**

**D1**

**S**

**OUT**

**1**

**Y**

What connecting it would look like on an imaginary breadboard?

