Aayush Shah 19BCE245 24 November 2020

# Truth table

# Square root under modulo p

 $\bullet$  Is square root under modulo p is exists or not ? - TRUTH-TABLE

	$x_5$	$x_4$	$x_3$	$x_2$	$x_1$	$x_0$	y
0:	0	0	0	0	0	0	0
1:	0	0	0	0	0	1	0
2:	0	0	0	0	1	0	0
3:	0	0	0	0	1	1	0
4: 5: 6: 7: 8:	0	0	0	1	0	0	0
5:	0	0	0	1	0	1	0
6:	0	0	0	1	1 1 0	0	0
7:	0	0	0	1	1	1	1
8:	0	0	1	0	0	0	0
9: 10:	0	0	1	0	0	1	0
10:	0	0	1	0	1	0	0
11:	0	0	1	0	1	1	0
12: 13:	0	0	1	1	0	0	0
13:	0	0	1	1	0	1	0
14:	0	0	1	1	1	0	0
15: 16: 17:	0	0	1	1	1	1	0
16:	0	1	0	0	0	0	0
17:	0	1	0	0	0	1	1
18:	0	1	0	0	1	0	1 0
19:	0	1	0	0	1 0	0	0
20: 21:	0	1	0	1			0
21:	0	1	0	1	0	1	0
22:	0	1	0	1	1	0	0
23:	0	1	0	1	1	1	0
23: 24:	0	1	1	0	0	0	0
25:	0	1	1	0	0	1	0
26:	0	1	1	0	1	0	0
27:	0	1	1	0	1	1	0
27: 28: 29:	0	1	1	1	0	0	0
29:	0	1	1	1	0	1	0
30:	0	1	1	1	1	0	0
31:	0	1	1	1	1	1	1

32:	1	0	0	0	0	0	0
33:	1	0	0	0	0	1	0
34:	1	0	0	0	1	0	0
35:	1	0	0	0	1	1	0
36:	1	0	0	1	0	0	0
37: 38:	1	0	0	1	0	1	0
38:	1	0	0	1	1	0	0
39:	1	0	0	1	1	1	0
40:	1	0	1	0	0	0	0
41: 42:	1	0	1	0	0	1	0
42:	1	0	1	0	1	0	1
43:	1	0	1	0	1	1	0
44: 45:	1	0	1	1	0	0	0
45:	1	0	1	1	0	1	0
46:	1	0	1	1	1	0	0
47:	1	0	1	1	1	1	0
48:	1	1	0	0	0	0	0
49:	1	1	0	0	0	1	0
50:	1	1	0	0	1	0	0
51:	1	1	0	0		1	0
52:	1	1	0	1	0	0	0
51: 52: 53: 54: 55:	1	1	0	1	0	1	0
54:	1	1	0		1	0	0
55:	1	1	0	1	1	1	0
56:	1	1	1	0	0	0	0
57: 58:	1	1	1	0	0	1	0
58:	1	1	1	0	1	0	0
59:	1	1	1	0	1	1	0
60:	1	1	1	1	0	0	0
61:	1	1	1	1	0	1	0
62:	1	1	1	1	1	0	0
63:	1	1	1	1	1	1	0

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#### Minimal boolean expression:

$$y = (\bar{x}_{5}\bar{x}_{3}x_{2}x_{1}x_{0}) + (\bar{x}_{5}x_{4}\bar{x}_{3}\bar{x}_{2}\bar{x}_{1}x_{0}) + (\bar{x}_{5}x_{4}x_{2}x_{1}x_{0}) + (x_{5}\bar{x}_{4}x_{3}\bar{x}_{2}x_{1}\bar{x}_{0})$$

#### • Digit 1 - TRUTH-TABLE

#### $|x_5|x_4|x_3|x_2|x_1|x_0|y$ 0: 0 0 0 0 0 0 1: 0 | 0 | 0 | 0 | 0 | 1 | 1 0 2: 0 0 $0 \mid 0$ 0 3: 0 0 0 0 0 4: 0 0 0 1 $\mid 0 \mid 0 \mid \times$ 5: 0 0 0 1 0 1 6: 0 0 0 1 1 0 7: 0 0 | 0 | 1 0 0 0 8: 0 0 | 1 9: 0 0 1 0 0 1 10: 0 0 | 1 0 1 0 × 11: 0 0 1 0 1 1 12: 0 1 0 0 0 1 13: 0 0 | 1 1 0 1 1 14: 0 0 1 1 1 0 X 15: 0 0 1 1 1 $0 | 0 | 0 | \times$ 16: 0 1 17: 0 0 1 0 0 0 1 18: 0 1 0 0 0 19: 0 1 0 | 0 | 1 1 0 20: 0 1 0 | 1 | 0 | 0 | × 21: 0 1 0 1 0 1 × 0 × 22: 0 1 0 | 1 1 23: 0 1 $0 \mid \overline{1}$ 1 24: 0 1 1 0 | 0 | 025: 0 1 1 0 0 | 1 0 | 1 | 0 | × 1 26: 0 1 27: 0 1 1 0 1 0 0 × 28: 0 1 1 1 29: 0 1 1 1 0 | 1 | 0 30: 0 1 1 1 1 0 31: 0 1 1 1 32: 1 0 0 0 0 0 33: 1 0 0 0 0 1 34: 1 $0 \mid 0 \mid 0$ 0 × 35: 1 0 1 0 0 36: 1 × 0 0 1 $0 \mid 0$ 37: 1 $0 \mid 0$ 0 38: 1 | 0 | 0

$$y = (x_5 \bar{x}_4 x_3 \bar{x}_1)$$

39:	1	U	U	1	1	1	×
40:	1	0	1	0	0	0	×
41:	1	0	1	0	0	1	1
42:	1	0	1	0	1	0	×
43:	1	0	1	0	1	1	0
44:	1	0	1	1	0	0	X
45:	1	0	1	1	0	1	×
46:	1	0	1	1	1	0	X
47:	1	0	1	1	1	1	0
48:	1	1	0	0	0	0	X
49:	1	1	0	0	0	1	X
50:	1	1	0	0	1	0	×
51:	1	1	0	0	1	1	×
52:	1	1	0	1	0	0	×
53:	1	1	0	1	0	1	0
54:	1	1	0	1	1	0	X
55:	1	1	0	1	1	1	×
56:	1	1	1	0	0	0	×
57:	1	1	1	0	0	1	×
58:	1	1	1	0	1	0	×
59:	1	1	1	0	1	1	0
60:	1	1	1	1	0	0	×
61:	1	1	1	1	0	1	0
62:	1	1	1	1	1	0	×
63:	1	1	1	1	1	1	×

#### • Digit 2 - TRUTH-TABLE

	$x_5$	$x_4$	$x_3$	$x_2$	$x_1$	$ x_0 $	y
0:	0	0	0	0	0	0	×
1:	0	0	0	0	0	1	×
2:	0	0	0	0	1	0	0
3:	0	0	0	0	1	1	0
4:	0	0	0	1	0	0	×
5:	0	0	0	1	0	1	0
6:	0	0	0	1	1	0	×
7:	0	0	0	1	1	1	0
8:	0	0	1	0	0	0	×
9:	0	0	1	0	0	1	×
10:	0	0	1	0	1	0	×
11:	0	0	1	0	1	1	0
12:	0	0	1	1	0	0	×
13:	0	0	1	1	0	1	0
14:	0	0	1	1	1	0	×
15:	0	0	1	1	1	1	×
16:	0	1	0	0	0	0	×
17:	0	1	0	0	0	1	1
18:	0	1	0	0	1	0	×
19:	0	1	0	0	1	1	0
20:	0	1	0	1	0	0	×
21:	0	1	0	1	0	1	×
22:	0	1	0	1	1	0	×
23:	0	1	0	1	1	1	1
24:	0	1	1	0	0	0	×
25:	0	1	1	0	0	1	×
26:	0	1	1	0	1	0	×
27:	0	1	1	0	1	1	×
28:	0	1	1	1	0	0	×
29:	0	1	1	1	0	1	0
30:	0	1	1	1	1	0	×
31:	0	1	1	1	1	1	0
32:	1	0	0	0	0	0	×
33:	1	0	0	0	0	1	×
34:	1	0	0	0	1	0	×
35:	1	0	0	0	1	1	×
36:	1	0	0	1	0	0	×
37:	1	0	0	1	0	1	0
38:	1	0	0	1	1	0	×

$$y = (\bar{x}_5 x_4 \bar{x}_3 \bar{x}_1) \vee (\bar{x}_5 x_4 \bar{x}_3 x_2)$$

39:	1	U	U	1	1	1	×
40:	1	0	1	0	0	0	×
41:	1	0	1	0	0	1	0
42:	1	0	1	0	1	0	×
43:	1	0	1	0	1	1	0
44:	1	0	1	1	0	0	×
45:	1	0	1	1	0	1	×
46:	1	0	1	1	1	0	×
47:	1	0	1	1	1	1	0
48:	1	1	0	0	0	0	×
49:	1	1	0	0	0	1	×
50:	1	1	0	0	1	0	×
51:	1	1	0	0	1	1	×
52:	1	1	0	1	0	0	×
53:	1	1	0	1	0	1	0
54:	1	1	0	1	1	0	×
55:	1	1	0	1	1	1	X
56:	1	1	1	0	0	0	×
57:	1	1	1	0	0	1	×
58:	1	1	1	0	1	0	×
59:	1	1	1	0	1	1	0
60:	1	1	1	1	0	0	×
61:	1	1	1	1	0	1	0
62:	1	1	1	1	1	0	×
63:	1	1	1	1	1	1	×

## • Digit 3 - TRUTH-TABLE

	$x_5$	$x_4$	$x_3$	$x_2$	$x_1$	$x_0$	y
0:	0	0	0	0	0	0	×
1:	0	0	0	0	0	1	×
2:	0	0	0	0	1	0	0
3:	0	0	0	0	1	1	0
4:	0	0	0	1	0	0	×
5:	0	0	0	1	0	1	0
6:	0	0	0	1	1	0	×
7:	0	0	0	1	1	1	1
8:	0	0	1	0	0	0	×
9:	0	0	1	0	0	1	×
10:	0	0	1	0	1	0	×
11:	0	0	1	0	1	1	0
12:	0	0	1	1	0	0	×
13:	0	0	1	1	0	1	0
14:	0	0	1	1	1	0	×
15:	0	0	1	1	1	1	×
16:	0	1	0	0	0	0	×
17:	0	1	0	0	0	1	1
18:	0	1	0	0	1	0	×
19:	0	1	0	0	1	1	0
20:	0	1	0	1	0	0	×
21:	0	1	0	1	0	1	×
22:	0	1	0	1	1	0	×
23:	0	1	0	1	1	1	0
24:	0	1	1	0	0	0	×
25:	0	1	1	0	0	1	×
26:	0	1	1	0	1	0	×
27:	0	1	1	0	1	1	×
28:	0	1	1	1	0	0	×
29:	0	1	1	1	0	1	0
30:	0	1	1	1	1	0	×
31:	0	1	1	1	1	1	0
32:	1	0	0	0	0	0	×
33:	1	0	0	0	0	1	×
34:	1	0	0	0	1	0	×
35:	1	0	0	0	1	1	×
36:	1	0	0	1	0	0	×
37:	1	0	0	1	0	1	0
38:		0	0	1	1	0	×

$$y = (\bar{x}_5 \bar{x}_4 x_2 x_1) \vee (\bar{x}_5 x_4 \bar{x}_3 \bar{x}_1)$$

39:	1	U	U			1	×
40:	1	0	1	0	0	0	×
41:	1	0	1	0	0	1	0
42:	1	0	1	0	1	0	×
43:	1	0	1	0	1	1	0
44:	1	0	1	1	0	0	×
45:	1	0	1	1	0	1	×
46:	1	0	1	1	1	0	×
47:	1	0	1	1	1	1	0
48:	1	1	0	0	0	0	×
49:	1	1	0	0	0	1	×
50:	1	1	0	0	1	0	×
51:	1	1	0	0	1	1	×
52:	1	1	0	1	0	0	×
53:	1	1	0	1	0	1	0
54:	1	1	0	1	1	0	×
55:	1	1	0	1	1	1	×
56:	1	1	1	0	0	0	×
57:	1	1	1	0	0	1	×
58:	1	1	1	0	1	0	×
59:	1	1	1	0	1	1	0
60:	1	1	1	1	0	0	×
61:	1	1	1	1	0	1	0
62:	1	1	1	1	1	0	×
63:	1	1	1	1	1	1	×

## • Digit 4 - TRUTH-TABLE

	$x_5$	$x_4$	$x_3$	$x_2$	$x_1$	$x_0$	y
0:	0	0	0	0	0	0	×
1:	0	0	0	0	0	1	×
2:	0	0	0	0	1	0	0
3:	0	0	0	0	1	1	0
4:	0	0	0	1	0	0	×
5:	0	0	0	1	0	0	0
6:	0	0	0	1	1		×
7:	0	0	0	1	1	1	0
8:	0	0	1	0	0	0	×
9:	0	0	1	0	0	1	×
10:	0	0	1	0	1	0	×
11:	0	0	1	0	1	1	0
12:	0	0	1	1	0	0	×
13:	0	0	1	1	0	1	0
14:	0	0	1	1	1	0	×
15:	0	0	1	1	1	1	×
16:	0	1	0	0	0	0	×
17:	0	1	0	0	0	1	0
18:	0	1	0	0	1	0	×
19:	0	1	0	0	1	1	0
20:	0	1	0	1	0	0	×
21:	0	1	0	1	0	1	×
22:	0	1	0	1	1	0	×
23: 24:	0	1	0	1	1	1	0
24:	0	1	1	0	0	0	×
25:	0	1	1	0	0	1	×
26:	0	1	1	0	1	0	×
27:	0	1	1	0	1	1	×
28:	0	1	1	1	0	0	×
29:	0	1	1	1	0	1	0
30:	0	1	1	1	1	0	×
31:	0	1	1	1	1	1	1
32:	1	0	0	0	0	0	×
33:	1	0	0	0	0	1	×
34:	1	0	0	0	1	0	×
35:	1	0	0	0	1	1	×
36:	1	0	0	1	0	0	×
37:	1	0	0	1	0	1	0
38:		0	0	1	1	0	×

$$y = (\bar{x}_5 x_3 x_2 x_1)$$

40:       1       0       1       0       0       0       ×         41:       1       0       1       0       0       1       0         42:       1       0       1       0       1       0       ×         43:       1       0       1       0       1       1       0       ×         44:       1       0       1       1       0       0       ×         45:       1       0       1       1       0       1       ×         46:       1       0       1       1       1       0       ×         47:       1       0       1       1       1       0       ×         47:       1       0       1       1       1       0       ×         47:       1       0       1       1       1       0       ×         49:       1       1       0       0       0       ×         51:       1       1       0       0       1       ×         52:       1       1       0       1       0       ×         53:	39:		0	0	l	l	l	×
42:       1       0       1       0       1       0       ×         43:       1       0       1       0       1       1       0       ×         44:       1       0       1       1       0       0       ×         45:       1       0       1       1       0       1       ×         46:       1       0       1       1       1       0       ×         47:       1       0       1       1       1       0       ×         49:       1       1       0       0       0       ×         50:       1       1       0       0       0       ×         50:       1       1       0       0       1       ×         51:       1       1       0       0       1       ×         52:       1       1       0       1       0       ×         53:       1       1       0       1       0       ×         55:       1       1       0       1       1       1       ×         56:       1       1       1	40:	1	0	1	0	0	0	X
43:       1       0       1       0       1       1       0         44:       1       0       1       1       0       0       ×         45:       1       0       1       1       0       1       ×         46:       1       0       1       1       1       0       ×         47:       1       0       1       1       1       0       ×         49:       1       1       0       0       0       ×         50:       1       1       0       0       1       ×         50:       1       1       0       0       1       ×         51:       1       1       0       0       1       ×         52:       1       1       0       1       0       ×         53:       1       1       0       1       0       ×         55:       1       1       0       1       1       ×         55:       1       1       0       1       1       ×         56:       1       1       1       0       0       ×	41:	1	0	1	0	0	1	0
44:       1       0       1       1       0       0       ×         45:       1       0       1       1       0       1       ×         46:       1       0       1       1       1       0       ×         47:       1       0       1       1       1       1       0       ×         48:       1       1       0       0       0       ×       ×       ×       50:       1       1       0       0       0       ×       ×       50:       1       1       0       0       1       ×       ×       50:       1       1       0       0       1       ×       ×       50:       1       1       0       0       1       ×       ×       52:       1       1       0       1       0       ×       ×       53:       1       1       0       1       0       ×       55:       1       1       0       1       0       ×       55:       1       1       0       1       0       ×       55:       1       1       0       1       1       0       ×       55:       1 <td>42:</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td></td>	42:	1	0	1	0	1	0	
45:       1       0       1       1       0       1       ×         46:       1       0       1       1       1       0       ×         47:       1       0       1       1       1       1       0       ×         48:       1       1       0       0       0       0       ×         50:       1       1       0       0       1       ×         50:       1       1       0       0       1       ×         51:       1       1       0       0       1       ×         52:       1       1       0       1       0       ×         53:       1       1       0       1       0       ×         53:       1       1       0       1       0       ×         55:       1       1       0       1       1       1       ×         56:       1       1       1       0       1       1       ×         57:       1       1       1       0       1       0       ×         59:       1       1       1	43:	1	0	1	0	1	1	0
46:       1       0       1       1       1       0       ×         47:       1       0       1       1       1       0       0       0       ×         48:       1       1       0       0       0       0       ×         49:       1       1       0       0       0       1       ×         50:       1       1       0       0       1       0       ×         51:       1       1       0       0       1       1       ×         52:       1       1       0       1       0       ×         53:       1       1       0       1       0       ×         53:       1       1       0       1       0       ×         55:       1       1       0       1       1       1       ×         56:       1       1       1       0       0       ×       5       1       1       0       0       ×         57:       1       1       1       0       1       0       ×       5       1       1       0       0       <	44:	1	0	1	1	0	0	×
47:       1       0       1       1       1       0       0       0       ×         48:       1       1       0       0       0       0       ×         49:       1       1       0       0       0       1       ×         50:       1       1       0       0       1       0       ×         51:       1       1       0       0       1       1       ×         52:       1       1       0       1       0       ×         53:       1       1       0       1       0       ×         54:       1       1       0       1       0       ×         55:       1       1       0       1       1       1       ×         56:       1       1       1       0       0       ×         57:       1       1       1       0       0       ×         59:       1       1       1       0       0       ×         59:       1       1       1       0       0       ×         61:       1       1       1	45:	1	0	1	1	0	1	×
48:       1       1       0       0       0       0       ×         49:       1       1       0       0       0       1       ×         50:       1       1       0       0       1       0       ×         51:       1       1       0       0       1       1       ×         52:       1       1       0       1       0       ×         53:       1       1       0       1       0       ×         54:       1       1       0       1       0       ×         55:       1       1       0       1       1       ×         56:       1       1       1       0       0       ×         57:       1       1       1       0       0       ×         58:       1       1       1       0       1       0       ×         59:       1       1       1       0       0       ×         61:       1       1       1       1       0       0       ×         61:       1       1       1       1       0		1	0	1	1		0	×
49:       1       1       0       0       0       1       ×         50:       1       1       0       0       1       0       ×         51:       1       1       0       0       1       1       ×         52:       1       1       0       1       0       ×         53:       1       1       0       1       0       1       0         54:       1       1       0       1       1       0       ×         55:       1       1       0       1       1       1       ×         56:       1       1       1       0       0       0       ×         57:       1       1       1       0       0       1       ×         58:       1       1       1       0       1       0       ×         59:       1       1       1       0       0       ×         61:       1       1       1       1       0       0       ×         61:       1       1       1       1       0       0       ×       0       0		1	0	1	1	1	1	0
50:     1     1     0     0     1     0     ×       51:     1     1     0     0     1     1     ×       52:     1     1     0     1     0     0     ×       53:     1     1     0     1     0     1     0       54:     1     1     0     1     1     0     ×       55:     1     1     0     1     1     1     ×       56:     1     1     1     0     0     ×       57:     1     1     1     0     0     1       58:     1     1     1     0     1     0     ×       59:     1     1     1     0     1     0     ×       60:     1     1     1     1     0     0     ×       61:     1     1     1     1     0     1     0       62:     1     1     1     1     1     0     ×	48:	1		0	0	0	0	×
51: 1 1 0 0 1 1 × 52: 1 1 0 1 0 0 × 53: 1 1 0 1 0 1 0 × 54: 1 1 0 1 1 0 × 55: 1 1 0 1 1 0 × 56: 1 1 1 0 1 1 1 × 56: 1 1 1 0 0 0 0 × 57: 1 1 1 0 0 1 × 58: 1 1 1 0 1 0 × 59: 1 1 1 0 1 1 0 × 60: 1 1 1 1 0 1 0 × 61: 1 1 1 1 0 0 ×		1	1	0	0		1	×
52: 1 1 0 1 0 0 × 53: 1 1 0 1 0 1 0 54: 1 1 0 1 1 0 × 55: 1 1 0 1 1 1 × 56: 1 1 1 0 0 0 × 57: 1 1 1 0 0 1 × 58: 1 1 1 0 1 0 × 59: 1 1 1 0 1 0 × 60: 1 1 1 1 0 0 0 × 61: 1 1 1 1 0 0 0 ×	50:	1	1	0	0	1	0	×
53: 1 1 0 1 0 1 0 54: 1 1 0 1 1 0 × 55: 1 1 0 1 1 1 × 56: 1 1 1 0 0 0 0 × 57: 1 1 1 0 0 1 × 58: 1 1 1 0 1 0 × 59: 1 1 1 0 1 0 × 60: 1 1 1 1 0 0 0 × 61: 1 1 1 1 0 0 0 ×		1	1	0	0	1	1	×
54: 1 1 0 1 1 0 × 55: 1 1 0 1 1 1 × 56: 1 1 1 0 0 0 0 × 57: 1 1 1 0 0 1 × 58: 1 1 1 0 1 0 × 59: 1 1 1 0 0 1 0 × 60: 1 1 1 1 0 0 × 61: 1 1 1 1 0 0 0 ×	52:	1	1	0	1	0	0	
55: 1 1 0 1 1 1 × 56: 1 1 1 0 0 0 × 57: 1 1 1 0 0 1 × 58: 1 1 1 0 0 0 × 59: 1 1 1 0 1 0 × 60: 1 1 1 1 0 0 × 61: 1 1 1 1 0 1 0 × 62: 1 1 1 1 1 0 ×		1	1	0			1	0
56: 1 1 1 0 0 0 × 57: 1 1 1 0 0 1 × 58: 1 1 1 0 0 0 0 × 59: 1 1 1 0 1 0 × 60: 1 1 1 1 0 0 × 61: 1 1 1 1 0 1 0 × 62: 1 1 1 1 1 0 ×	54:	1	1	0	1	1	0	×
57: 1 1 1 0 0 1 × 58: 1 1 1 0 0 0 × 59: 1 1 1 0 0 0 × 60: 1 1 1 1 0 0 × 61: 1 1 1 1 0 1 0 × 62: 1 1 1 1 1 0 ×								×
58: 1 1 1 0 1 0 × 59: 1 1 1 0 1 1 0 60: 1 1 1 1 0 0 × 61: 1 1 1 1 0 0 × 62: 1 1 1 1 1 0 0 ×	56:	1	1	1	0	0	0	×
59: 1 1 1 0 1 1 0 60: 1 1 1 1 0 0 × 61: 1 1 1 1 0 1 0 62: 1 1 1 1 1 0 ×	57:	1	1		0	0	1	×
60: 1 1 1 1 0 0 × 61: 1 1 1 1 0 1 0 62: 1 1 1 1 1 0 ×		1	1	1	0		0	
61: 1 1 1 1 0 1 0 62: 1 1 1 1 1 0 ×	59:	1	1	1	0	1	1	0
62: 1 1 1 1 1 0 ×	60:	1	1			0	0	×
		-	-	_	_			0
63: 1   1   1   1   1   1   ×								×
	63:	1	1	1	1	1	1	×

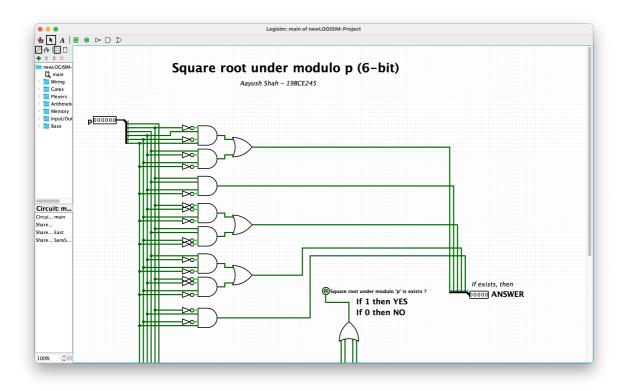
## • Digit 5 - TRUTH-TABLE

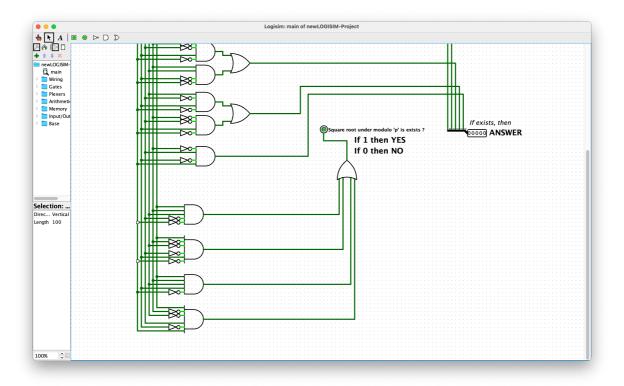
	$x_5$	$x_4$	$x_3$	$x_2$	$x_1$	$x_0$	y
0:	0	0	0	0	0	0	X
1:	0	0	0	0	0	1	×
2:	0	0	0	0	1	0	0
3:	0	0	0	0	1	1	0
4:	0	0	0	1	0	0	×
5:	0	0	0	1	0	1	0
6:	0	0	0	1	1	0	×
7:	0	0	0	1	1	1	0
8:	0	0	1	0	0	0	×
9:	0	0	1	0	0	1	×
10:	0	0	1	0	1	0	×
11:	0	0	1	0	1	1	0
12:	0	0	1	1	0	0	X
13:	0	0	1	1	0	1	0
14:	0	0	1	1	1	0	×
15:	0	0	1	1	1	1	×
16:	0	1	0	0	0	0	×
17:	0	1	0	0	0	1	0
18:	0	1	0	0	1	0	×
19:	0	1	0	0	1	1	0
20:	0	1	0	1	0	0	×
21:	0	1	0	1	0	1	×
22:	0	1	0	1	1	0	X
23:	0	1	0	1	1	1	1
24:	0	1	1	0	0	0	×
25:	0	1	1	0	0	1	×
26:	0	1	1	0	1	0	×
27:	0	1	1	0	1	1	×
28:	0	1	1	1	0	0	X
29:	0	1	1	1	0	1	0
30:	0	1	1	1	1	0	×
31:	0	1	1	1	1	1	0
32:	1	0	0	0	0	0	×
33:	1	0	0	0	0	1	×
34:	1	0	0	0	1	0	×
35:	1	0	0	0	0	1	×
36:	1	0	0	1		0	×
37:	1	0	0	1	0	1	0
38:	1	0	0	1	1	0	×

$$y = (\bar{x}_5 x_4 \bar{x}_3 x_2) \vee (x_5 \bar{x}_4 x_3 \bar{x}_1)$$

39:[	1	U	U	1	1	1	×
40:	1	0	1	0	0	0	×
41:	1	0	1	0	0	1	1
42:	1	0	1	0	1	0	×
43:	1	0	1	0	1	1	0
44:	1	0	1	1	0	0	×
45:	1	0	1	1	0	1	×
46:	1	0	1	1	1	0	×
47:	1	0	1	1	1	1	0
48:	1	1	0	0	0	0	×
49:	1	1	0	0	0	1	×
50:	1	1	0	0	1	0	×
51:	1	1	0	0	1	1	×
52:	1	1	0	1	0	0	×
53:	1	1	0	1	0	1	0
54:	1	1	0	1	1	0	×
55:	1	1	0	1	1	1	×
56:	1	1	1	0	0	0	×
57:	1	1	1	0	0	1	×
58:	1	1	1	0	1	0	×
59:	1	1	1	0	1	1	0
60:	1	1	1	1	0	0	×
61:	1	1	1	1	0	1	0
62:[	1	1	1	1	1	0	×
63:[	1	1	1	1	1	1	×

# Snaps of circuit





19BCE245 7