

Input XOR	Output XOR															
	0 _x	1 _x	2 _x	3 _x	4 _x	5 _x	6 _x	7 _x	8 _x	9 _x	A _x	B _x	C _x	D _x	E _x	F _x
0 _x	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 _x	0	0	0	4	0	2	6	4	0	14	8	6	8	4	6	2
2 _x	0	0	0	2	0	4	6	4	0	0	4	6	10	10	12	6
3 _x	4	8	4	8	4	6	4	2	4	2	2	4	6	2	0	4
4 _x	0	0	0	0	0	6	0	14	0	6	10	4	10	6	4	4
5 _x	2	0	4	8	2	4	6	6	2	0	8	4	2	4	10	2
6 _x	0	12	6	4	6	4	6	2	2	10	2	8	2	0	0	0
7 _x	4	6	6	4	2	4	4	2	6	4	2	4	4	6	0	6
8 _x	0	0	0	4	0	4	0	8	0	10	16	6	6	0	6	4
9 _x	14	2	4	10	2	8	2	6	2	4	0	0	2	2	2	4
A _x	0	6	6	2	10	4	10	2	6	2	2	4	2	2	4	2
B _x	6	2	2	0	2	4	6	2	10	2	0	6	6	4	4	8
C _x	0	0	0	4	0	14	0	10	0	6	2	4	4	8	6	6
D _x	6	2	6	2	10	2	0	4	0	10	4	2	8	2	2	4
E _x	0	6	12	8	0	4	2	0	8	2	4	4	6	2	0	6
F _x	0	8	2	0	6	6	8	2	4	4	4	6	8	0	4	2
10 _x	0	0	0	8	0	4	10	2	0	2	8	10	0	10	6	4
11 _x	6	6	4	6	4	0	6	4	8	2	10	2	2	4	0	0
12 _x	0	6	2	6	2	4	12	4	6	4	0	4	4	6	2	2
13 _x	4	0	4	0	8	6	6	0	0	2	0	6	4	8	2	14
14 _x	0	6	6	4	10	0	2	12	6	2	2	2	4	4	2	2
15 _x	6	8	2	0	8	2	0	2	2	2	2	2	2	14	10	2
16 _x	0	8	6	4	2	2	4	2	6	4	6	2	6	0	6	6
17 _x	6	4	8	6	4	4	0	4	6	2	4	4	4	2	4	2
18 _x	0	6	4	6	10	4	0	2	4	8	0	0	4	8	2	6
19 _x	2	4	6	4	4	2	4	2	6	4	6	8	0	6	4	2
1A _x	0	6	8	4	2	4	2	2	8	2	2	6	2	4	4	8
1B _x	0	6	4	4	0	12	6	4	2	2	2	4	4	2	10	2
1C _x	0	4	6	6	12	0	4	0	10	2	6	2	0	0	10	2
1D _x	0	6	2	2	6	0	4	16	4	4	2	0	0	4	6	8
1E _x	0	4	8	2	10	6	6	0	8	4	0	2	4	4	0	6
1F _x	4	2	6	6	2	2	2	4	8	6	10	6	4	0	0	2
20 _x	0	0	0	2	0	12	10	4	0	0	0	2	14	2	8	10
21 _x	0	4	6	8	2	10	4	2	2	6	4	2	6	2	0	6
22 _x	4	12	8	4	2	2	0	0	2	8	8	6	0	6	0	2
23 _x	8	2	0	2	8	4	2	6	4	8	2	2	6	4	2	4
24 _x	10	4	0	0	0	4	0	2	6	8	6	10	8	0	2	4
25 _x	6	0	12	2	8	6	10	0	0	8	2	6	0	0	2	2
26 _x	2	2	4	4	2	2	10	14	2	0	4	2	2	4	6	4
27 _x	6	0	0	2	6	4	2	4	4	4	8	4	8	0	6	6
28 _x	8	0	8	2	4	12	2	0	2	6	2	0	6	2	0	10
29 _x	0	2	4	10	2	8	6	4	0	10	0	2	10	0	2	4
2A _x	4	0	4	8	6	2	4	4	6	6	2	6	2	2	4	4
2B _x	2	2	6	4	0	2	2	6	2	8	8	4	4	4	8	2
2C _x	10	6	8	6	0	6	4	4	2	4	4	4	0	0	2	4
2D _x	2	2	2	4	0	0	0	2	8	4	4	6	10	2	14	4
2E _x	2	4	0	2	10	4	2	0	2	2	6	2	8	8	10	2
2F _x	12	4	6	8	2	6	2	8	0	4	0	2	0	8	2	0
30 _x	0	4	0	2	4	4	8	6	10	6	2	12	0	0	0	6
31 _x	0	10	2	0	6	2	10	2	6	0	2	0	6	6	4	8
32 _x	8	4	6	0	6	4	4	8	4	6	8	0	2	2	2	0
33 _x	2	2	6	10	2	0	0	6	4	4	12	8	4	2	2	0
34 _x	0	12	6	4	6	0	4	4	4	0	4	6	4	2	4	4
35 _x	0	12	4	6	2	4	4	0	10	0	0	8	0	8	0	6
36 _x	8	2	4	0	4	0	4	2	0	8	4	2	6	16	2	2
37 _x	6	2	2	2	6	6	4	8	2	2	6	2	2	2	4	8
38 _x	0	8	8	10	6	2	2	0	4	0	4	2	4	0	4	10
39 _x	0	2	0	0	8	0	10	4	10	0	8	4	4	4	4	6
3A _x	4	0	2	8	4	2	2	2	4	8	2	0	4	10	10	2
3B _x	16	4	4	2	8	2	2	6	4	4	4	2	0	2	2	2
3C _x	0	2	6	2	8	4	6	0	10	2	2	4	4	10	4	0
3D _x	0	16	10	2	4	2	4	2	8	0	0	8	0	6	2	0
3E _x	4	4	0	10	2	4	2	14	4	2	6	6	0	0	6	0
3F _x	4	0	0	2	0	8	2	4	0	2	4	4	4	14	10	6

Table 28. The pairs XOR distribution table of S2.

Input XOR	Output XOR															
	0 _x	1 _x	2 _x	3 _x	4 _x	5 _x	6 _x	7 _x	8 _x	9 _x	A _x	B _x	C _x	D _x	E _x	F _x
0 _x	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 _x	0	0	0	2	0	4	2	12	0	14	0	4	8	2	6	10
2 _x	0	0	0	2	0	2	0	8	0	4	12	10	4	6	8	8
3 _x	8	6	10	4	8	6	0	6	4	4	0	0	0	4	2	2
4 _x	0	0	0	4	0	2	4	2	0	12	8	4	6	8	10	4
5 _x	6	2	4	8	6	10	6	2	2	8	2	0	2	0	4	2
6 _x	0	10	6	6	10	0	4	12	2	4	0	0	6	4	0	0
7 _x	2	0	0	4	4	4	4	2	10	4	4	8	4	4	4	6
8 _x	0	0	0	10	0	4	4	6	0	6	6	6	6	0	8	8
9 _x	10	2	0	2	10	4	6	2	0	6	0	4	6	2	4	6
A _x	0	10	6	0	14	6	4	0	4	6	6	0	4	0	2	2
B _x	2	6	2	10	2	2	4	0	4	2	6	0	2	8	14	0
C _x	0	0	0	8	0	12	12	4	0	8	0	4	2	10	2	2
D _x	8	2	8	0	0	4	2	0	2	8	14	2	6	2	4	2
E _x	0	4	4	2	4	2	4	4	10	4	4	4	4	4	2	8
F _x	4	6	4	6	2	2	4	8	6	2	6	2	0	6	2	4
10 _x	0	0	0	4	0	12	4	8	0	4	2	6	2	14	0	8
11 _x	8	2	2	6	4	0	2	0	8	4	12	2	10	0	2	2
12 _x	0	2	8	2	4	8	0	8	8	0	2	2	4	2	14	0
13 _x	4	4	12	0	2	2	2	10	2	2	2	2	4	4	4	8
14 _x	0	6	4	4	6	4	6	2	8	6	6	2	2	0	0	8
15 _x	4	8	2	8	2	4	8	0	4	2	2	2	2	6	8	2
16 _x	0	6	10	2	8	4	2	0	2	2	2	8	4	6	4	4
17 _x	0	6	6	0	6	2	4	4	6	2	2	10	6	8	2	0
18 _x	0	8	4	6	6	0	6	2	4	0	4	2	10	0	6	6
19 _x	4	2	4	8	4	2	10	2	2	2	6	8	2	6	0	2
1A _x	0	8	6	4	4	0	6	4	4	8	0	10	2	2	2	4
1B _x	4	10	2	0	2	4	2	4	8	2	2	8	4	2	8	2
1C _x	0	6	8	8	4	2	8	0	12	0	10	0	4	0	2	0
1D _x	0	2	0	6	2	8	4	6	2	0	4	2	4	10	0	14
1E _x	0	4	8	2	4	6	0	4	10	0	2	6	4	8	4	2
1F _x	0	6	8	0	10	6	4	6	4	2	2	10	4	0	0	2
20 _x	0	0	0	0	0	4	4	8	0	2	2	4	10	16	12	2
21 _x	10	8	8	0	8	4	2	4	0	6	6	6	0	0	2	0
22 _x	12	6	4	4	2	4	10	2	0	4	4	2	4	4	0	2
23 _x	2	2	0	6	0	2	4	0	4	12	4	2	6	4	8	8
24 _x	4	8	2	12	6	4	2	10	2	2	2	4	2	0	4	0
25 _x	6	0	2	0	8	2	0	2	8	8	2	2	4	4	10	6
26 _x	6	2	0	4	4	0	4	0	4	2	14	0	8	10	0	6
27 _x	0	2	4	16	8	6	6	6	0	2	4	4	0	2	2	2
28 _x	6	2	10	0	6	4	0	4	4	2	4	8	2	2	8	2
29 _x	0	2	8	4	0	4	0	6	4	10	4	8	4	4	4	2
2A _x	2	6	0	4	2	4	4	6	4	8	4	4	4	2	4	6
2B _x	10	2	6	6	4	4	8	0	4	2	2	0	2	4	4	6
2C _x	10	4	6	2	4	2	2	2	4	10	4	4	0	2	6	2
2D _x	4	2	4	4	4	2	4	16	2	0	0	4	4	2	6	6
2E _x	4	0	2	10	0	6	10	4	2	6	6	2	2	0	2	8
2F _x	8	2	0	0	4	4	4	2	6	4	6	2	4	8	4	6
30 _x	0	10	8	6	2	0	4	2	10	4	4	6	2	0	6	0
31 _x	2	6	2	0	4	2	8	8	2	2	2	0	2	12	6	6
32 _x	2	0	4	8	2	8	4	4	8	4	2	8	6	2	0	2
33 _x	4	4	6	8	6	6	0	2	2	2	6	4	12	0	0	2
34 _x	0	6	2	2	16	2	2	2	12	2	4	0	4	2	0	8
35 _x	4	6	0	10	8	0	2	2	6	0	0	6	2	10	2	6
36 _x	4	4	4	4	0	6	6	4	4	4	4	4	0	6	2	8
37 _x	4	8	2	4	2	2	6	0	2	4	8	4	10	0	6	2
38 _x	0	8	12	0	2	2	6	6	2	10	2	2	0	8	0	4
39 _x	2	6	4	0	6	4	6	4	8	0	4	4	2	4	8	2
3A _x	6	0	2	2	4	6	4	4	4	2	2	6	12	2	6	2
3B _x	2	2	6	0	0	10	4	8	4	2	4	8	4	4	0	6
3C _x	0	2	4	2	12	2	0	6	2	0	2	8	4	6	4	10
3D _x	4	6	8	6	2	2	2	2	10	2	6	6	2	4	2	0
3E _x	8	6	4	4	2	10	2	0	2	2	4	2	4	2	10	2
3F _x	2	6	4	0	0	10	8	2	2	8	6	4	6	2	0	4

Table 29. The pairs XOR distribution table of S3.