```
Tables of Truth
                  | = or ^ = xor & = and n = nand
                                  ^ 0 1 2 3 4 5 6 7 8 9 a b c d e f
| 0 1 2 3 4 5 6 7 8 9 a b c d e f
0 0 1 2 3 4 5 6 7 8 9 a b c d e f
                                    0 1 2 3 4 5 6 7 8 9 a b c d e f
 1 1 3 3 5 5 7 7 9 9 b b d d f f
                                  1 1 0 3 2 5 4 7 6 9 8 b a d c f
 2 3 2 3 6 7 6 7 a b a b e f e f
                                  2 2 3 0 1 6 7 4 5 a b 8 9 e f c d
3 3 3 3 3 7 7 7 7 b b b b f f f f
                                  3 3 2 1 0 7 6 5 4 b a 9 8 f
4 4 5 6 7 4 5 6 7 c d e f c d e f
                                  4 4 5 6 7 0 1 2 3 c d e f 8 9 a b
                                  5 5 4 7 6 1 0 3 2 d c f e 9 8 b a
 5 5 7 7 5 5 7 7 d d f f d d f f
                                            2 3 0 1 e f
6
 6
   7
     6 7 6
          767efefefe
                             f
                                  6
                                    6
                                      7 4 5
                                                       cdab8
7
 7
   7
     7
       7 7 7 7 7 f f f
                      f f
                          f
                            f
                              f
                                  7
                                    7 6 5 4 3 2 1 0 f
                                                     e d c b
                                                               9
8
 8
   9
     abcdef89abcde
                             f
                                  8
                                    8
                                      9 a b c d e f 0
                                                     1
                                                       2 3 4
                                                             5
   9
     bbddff99bbddf
                                  9 9 8 b a d c f e 1 0 3 2
9
 9
                              f
                                                           5 4
                                                                    *
aababefefababefef
                                  a a b 8 9 e f c d 2 3 0 1 6
                                                             7 4 5
                                                                    *
                                  b b a 9 8 f e d c 3 2 1 0 7
bbbbfffbbbbffff
                                                             6
                                                               5
                                  c c d e f 8 9 a b 4 5 6 7 0 1 2 3
ccdefcdefcdefcdef
                                                                    *
d d d f f d d f f d d f f
                                  d d c f e 9 8 b a 5 4 7 6 1 0 3 2
                                  e e f c d a b 8 9 6 7 4 5 2 3 0 1
e e f e f e f e f e f e f e f
ffffffffffffffff
                                  f f e d c b a 9 8 7 6 5 4 3 2 1
& 0 1 2 3 4 5 6 7 8 9
                                      123456789abcdef
                    abcdef
                                  n 0
                                                     f
                                                       f
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0
 0
   0 0 0 0 0 0 0 0
                    0 0
                        0 0 0 0
                                  0 f
                                      ffff
                                              f
                                               f
                                                 f f
                                                           f
                                                             f
                                                               f
1
 0
   1
     0
       1
         0
           1
             0
              1 0
                  1
                    0
                      1
                        0
                         1
                            0
                             1
                                  1 f
                                      efef
                                              e f
                                                  e f
                                                     e f
                                                         e
                                                           f
                                                             e
 0
     2
       2 0 0
            2 2 0 0
                    2
                      2
                        0 0
                           2
                              2
                                  2 f
                                      f
                                        d d f
                                              f
                                                d d f
                                                     f d d f
                                                             f
 0
   1
     2
       3 0 1 2 3 0 1 2
                      3 0 1
                            2
                              3
                                  3 f
                                      edcf
                                              edcfedcf
                                                             e d c
                                                                    *
4 0 0 0 0 4 4 4 4 0 0 0 0 4 4 4 4
                                  4 f f f b b b b f f f b b b b
5 0 1 0 1 4 5 4 5 0 1 0 1 4 5 4 5
                                  5 fefebabafefebaba
 0 0 2 2 4 4 6 6 0 0 2 2 4 4 6 6
                                  6 f f d d b b 9 9 f f d d b b 9 9
 0 1 2 3 4 5 6 7 0 1 2 3 4 5 6 7
7
                                  7 f e d c b a 9 8 f e d c b a 9 8
 0 0 0 0 0 0 0 0 8 8 8 8 8 8 8 8
                                  8 f f f f f f f f 7 7 7 7 7 7 7 7
 0 1 0 1 0 1 0 1 8 9 8 9 8 9 8 9
                                  9 f e f e f e f e 7 6 7 6 7 6 7
9
                                  a f f d d f f d d 7 7 5 5 7 7
 0 0 2 2 0 0 2 2 8 8 a a 8 8 a a
a
                                                   7 6 5 4 7
b
 0
   1 2 3 0 1 2 3 8 9 a b 8 9 a b
                                    fedcfedc
                                  b
                                                       7
                                                         7
 0
   0 0 0 4 4 4 4 8 8 8 8 C C C C
                                  C
                                    ffff
                                            b b b b
                                                   7
                                                     7
                                                           3
                                      efebaba76
 0
   1
     0 1 4 5 4 5 8 9 8 9 c d c d
                                    f
                                                       7 6
                                                           3
                                                               3
                                  d
                                  e f f d d b b 9 9 7 7 5 5
 0 0 2 2 4 4 6 6 8 8 a a c c e e
                                                           3 3 1 1
 0 1 2 3 4 5 6 7 8 9 a b c d e f
                                  f f e d c b a 9 8 7 6 5 4 3 2 1
```