

Radix-8 Modified Booth Encoder Multiplier Design

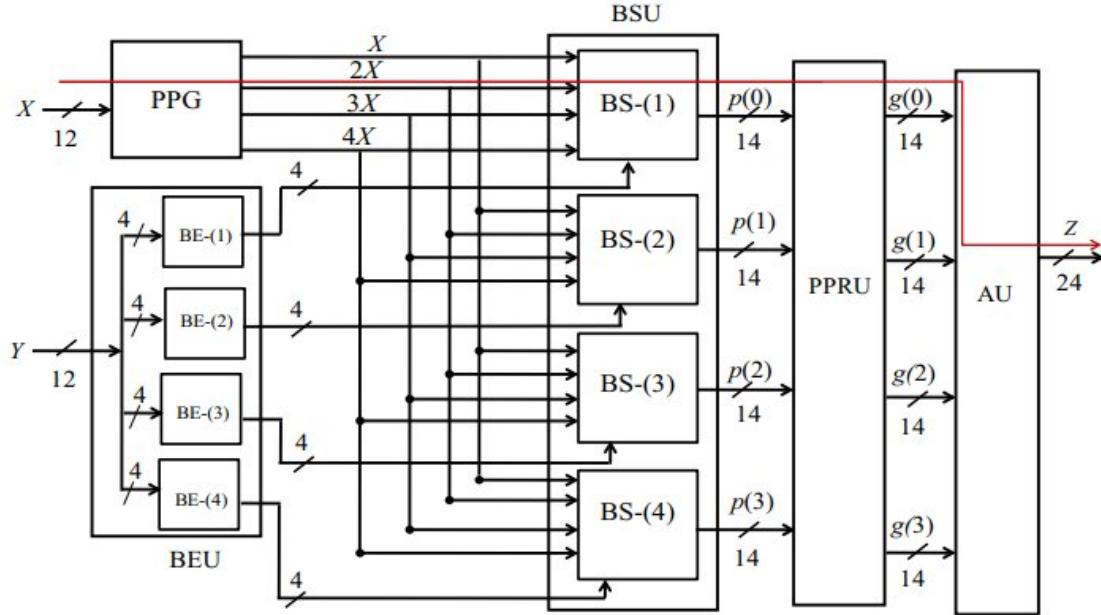


Fig. 3 Block diagram of proposed radix-8 Booth multiplier structure for 12-bit. The *red-colored arrow* shows the critical path (Color figure online)

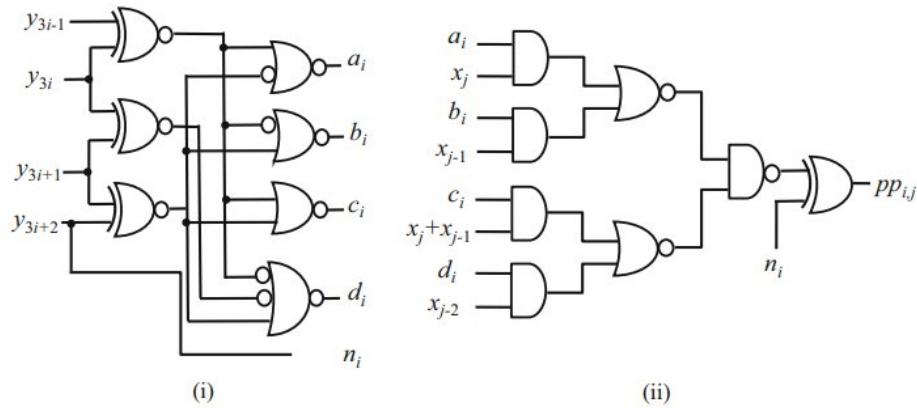


Fig. 4 Internal structure of Booth encoder (BE) and Booth selector (BS)

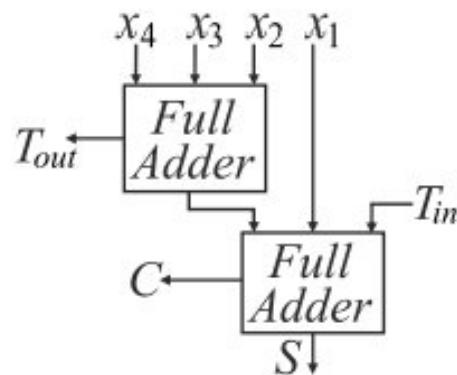
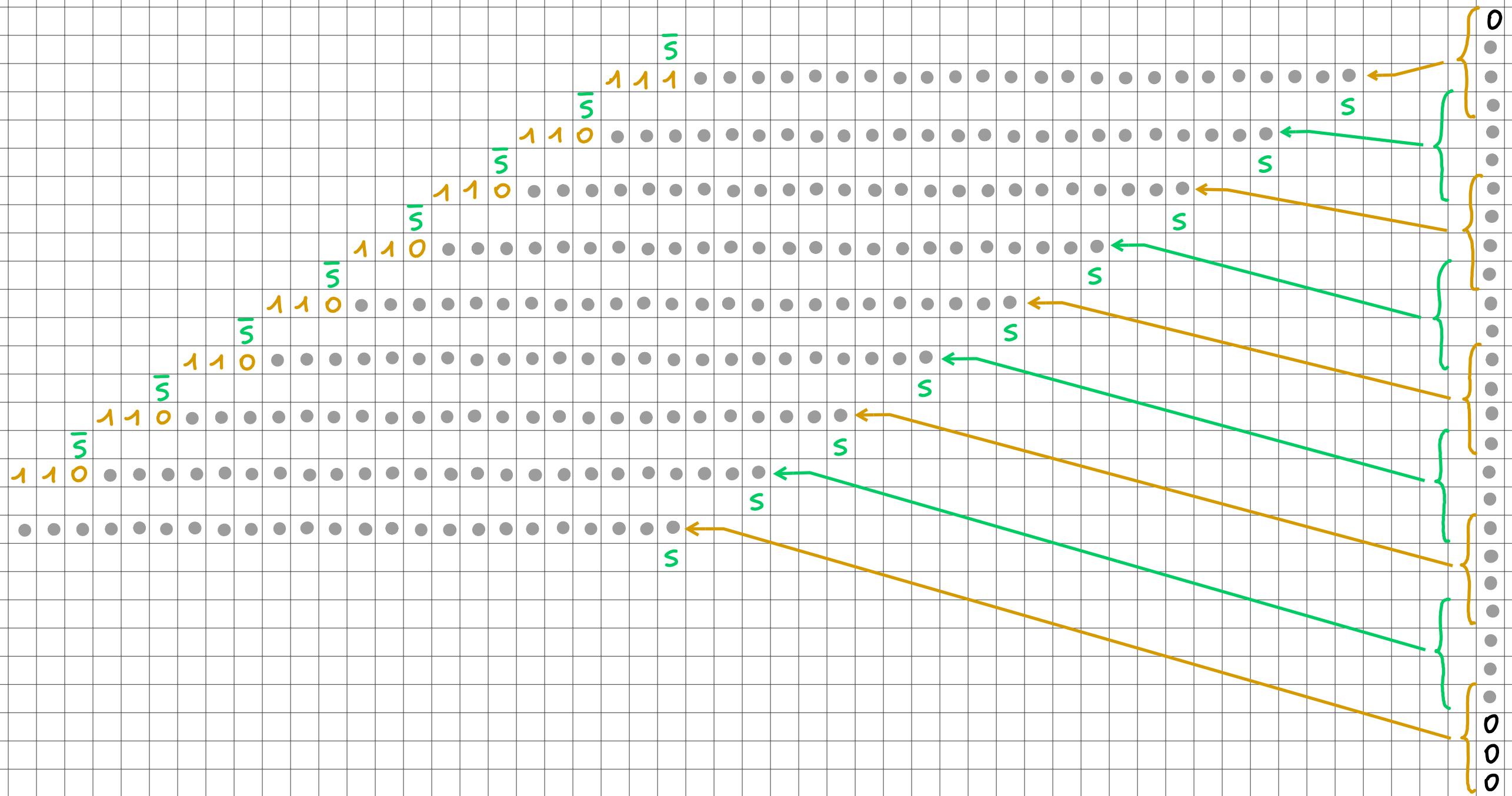
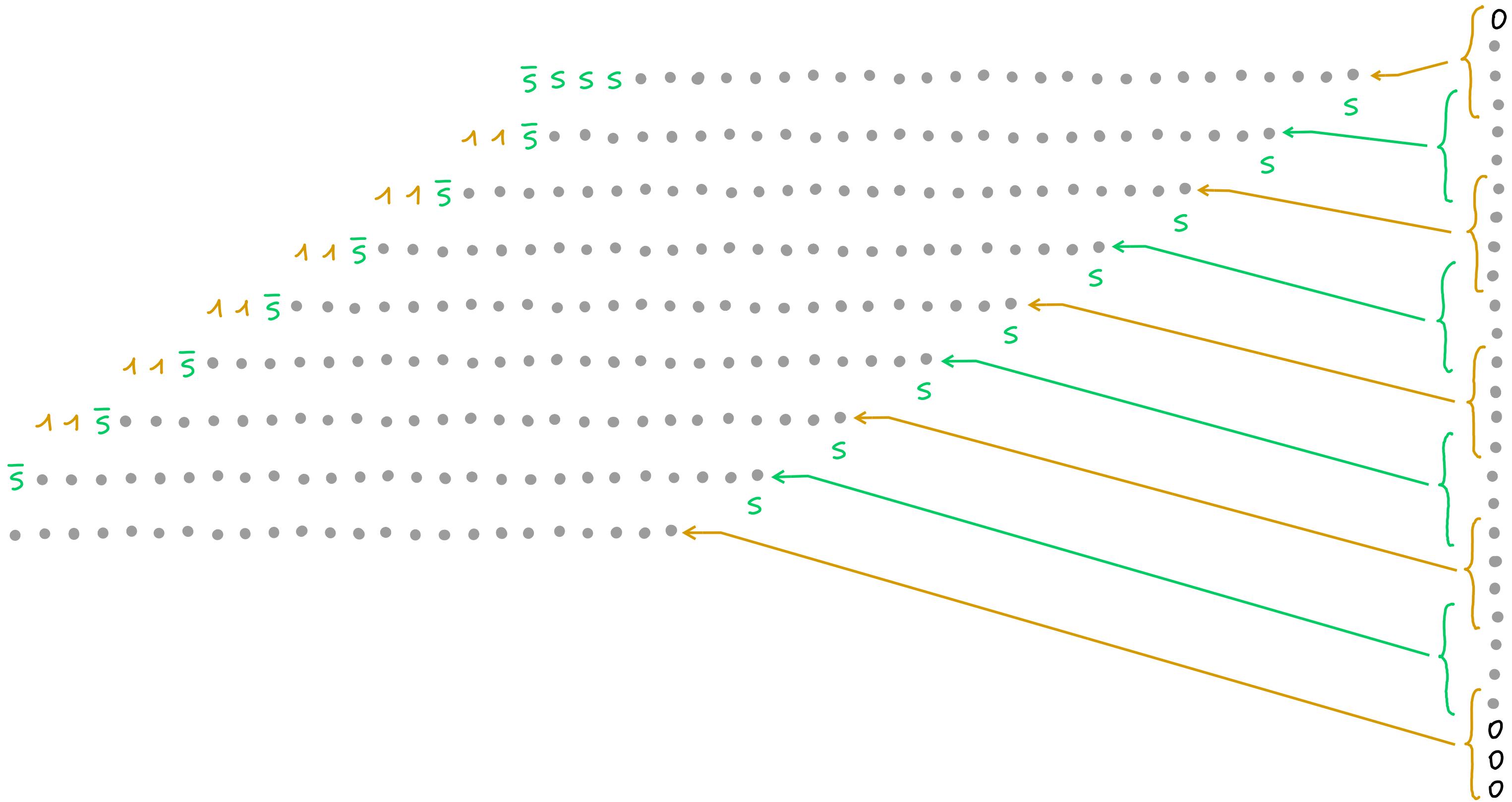


Fig. 1. An exact 4-2 compressor implemented with two full-adders.

ESTENSIONE DEL SEGNO

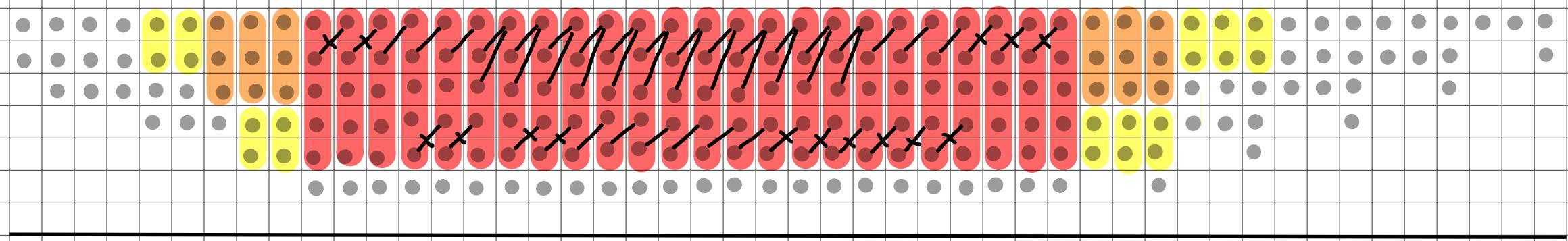
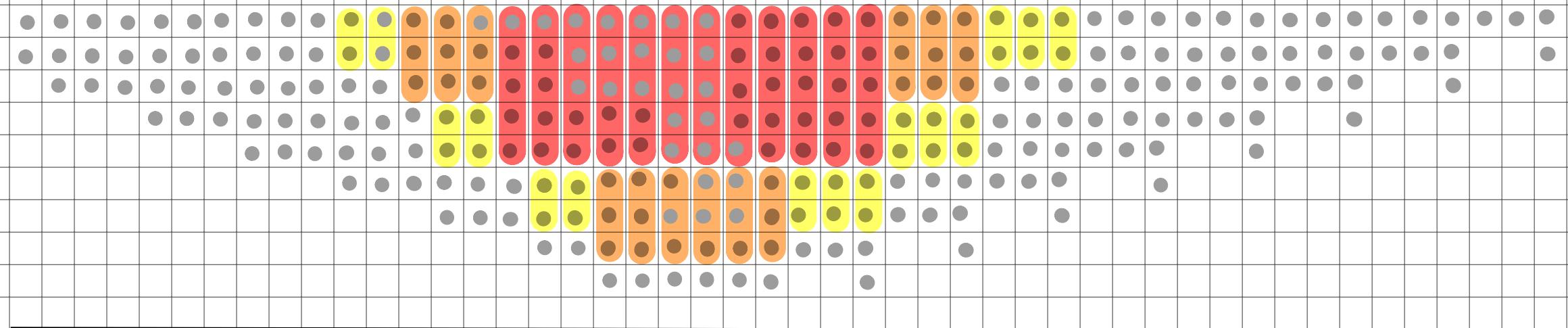




Dadda Tree Design

10 operands to be added together = 6 levels required to obtain the sum

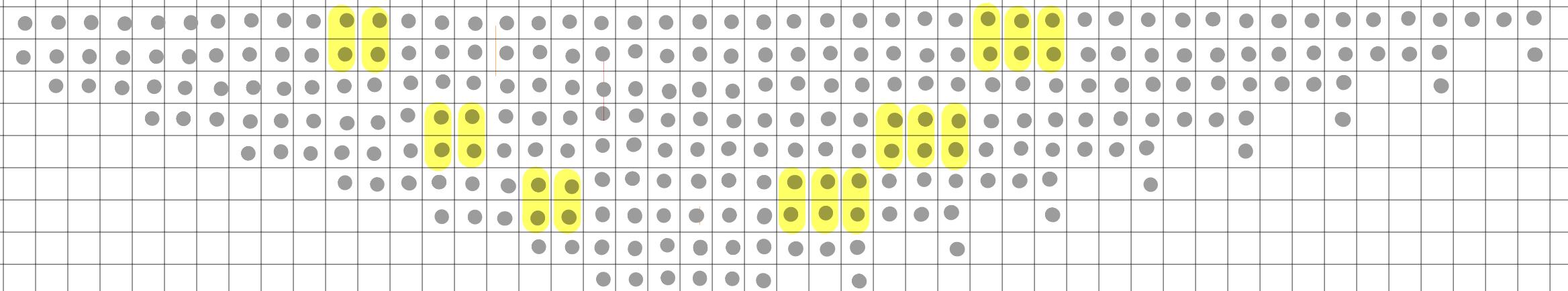
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 47 45 43 41 39 37 35 33 31 29 27 25 23 21 19 17 15 13 11 9 8 7 6 5 4 3 2 1



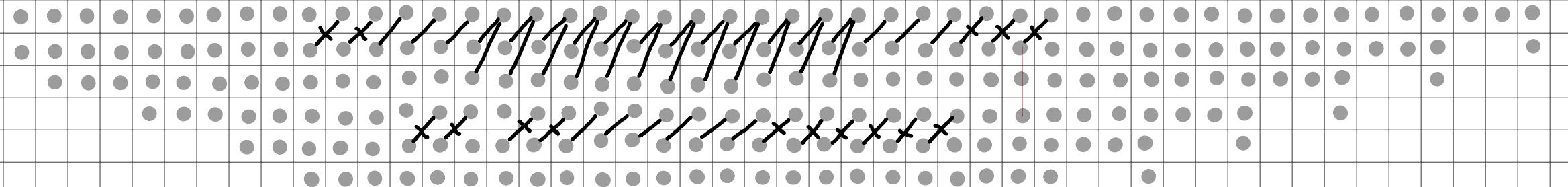
46 44 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 7 6 5 4 3 2 0
 47 45 43 41 39 37 35 33 31 29 27 25 23 21 19 17 15 13 11 9 8 7 6 5 4 3 2 1

Dadda Tree Design

46 44 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 7 6 4 2 0
 47 45 43 41 39 37 35 33 31 29 27 25 23 21 19 17 15 13 11 9 8 7 5 3 1



LEVEL IV (9 \rightarrow 6)
 12 (5,3) compressors
 12 FA
 15 HA



LEVEL III (6 \rightarrow 4)
 24 (5,3) compressors
 6 FA
 10 HA

46 44 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 7 6 4 2 0
 47 45 43 41 39 37 35 33 31 29 27 25 23 21 19 17 15 13 11 9 8 7 5 3 1

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