

QSD E-codes

Phi-Generator matrices of the QSD codes and weight distributions

Even lengths

//
/////

n=4 k1=1

[1 0 1 0]
[w 0 w 0]
[0 1 0 0]
[0 0 0 1]
[<0, 1>, <1, 2>, <2, 4>, <3, 6>, <4, 3>]

[1 0 0 1]
[w w w w]
[0 1 0 1]
[0 0 1 1]
[<0, 1>, <2, 6>, <4, 9>]

n=4 k1=2

[1 0 1 0]
[0 1 0 1]
[<0, 1>, <2, 6>, <4, 9>] (linear)

//
/////

n=6. k1=1

[1 0 1 0 0 0]
[w 0 w 0 0 0]
[0 1 0 0 0 0]
[0 0 0 1 0 0]
[0 0 0 0 1 0]

[0 0 0 0 0 1]
[<0, 1>, <1, 4>, <2, 9>, <3, 16>, <4, 19>, <5, 12>, <6, 3>]

[1 0 0 0 1 0]
[w 0 w w w 0]
[0 1 0 0 0 0]
[0 0 1 0 1 0]
[0 0 0 1 1 0]
[0 0 0 0 0 1]
[<0, 1>, <1, 2>, <2, 7>, <3, 12>, <4, 15>, <5, 18>, <6, 9>]

[w w w w w w]
[1 0 0 0 0 1]
[0 1 0 0 0 1]
[0 0 1 0 0 1]
[0 0 0 1 0 1]
[0 0 0 0 1 1]
[<0, 1>, <2, 15>, <4, 15>, <6, 33>]

n=6 k1=2
[1 0 1 0 0 0]
[w 0 w 0 0 0]
[0 1 0 0 0 1]
[0 w 0 w w w]
[0 0 0 1 0 1]
[0 0 0 0 1 1]
[<0, 1>, <2, 9>, <4, 27>, <6, 27>]

[1 0 1 0 0 0]
[w 0 w 0 0 0]

$[0 \ 1 \ 0 \ 0 \ 1 \ 0]$
 $[0 \ w \ 0 \ 0 \ w \ 0]$
 $[0 \ 0 \ 0 \ 1 \ 0 \ 0]$
 $[0 \ 0 \ 0 \ 0 \ 0 \ 1],$
 $[\langle 0, 1 \rangle, \langle 1, 2 \rangle, \langle 2, 7 \rangle, \langle 3, 12 \rangle, \langle 4, 15 \rangle, \langle 5, 18 \rangle, \langle 6, 9 \rangle],$

$[1 \ 0 \ 0 \ 0 \ 1 \ 1]$
 $[w \ 0 \ w \ w \ 0 \ w]$
 $[0 \ 1 \ 0 \ 0 \ 1 \ 0]$
 $[0 \ w \ 0 \ w \ w \ w]$
 $[0 \ 0 \ 1 \ 0 \ 1 \ 1]$
 $[0 \ 0 \ 0 \ 1 \ 0 \ 1]$
 $[\langle 0, 1 \rangle, \langle 2, 3 \rangle, \langle 3, 8 \rangle, \langle 4, 15 \rangle, \langle 5, 24 \rangle, \langle 6, 13 \rangle]$

n=6. k1=3. (linear)

$[1 \ 0 \ 1 \ 0 \ 0 \ 0]$
 $[0 \ 1 \ 0 \ 0 \ 1 \ 0]$
 $[0 \ 0 \ 0 \ 1 \ 0 \ 1]$
 $[\langle 0, 1 \rangle, \langle 2, 9 \rangle, \langle 4, 27 \rangle, \langle 6, 27 \rangle]$

$////////////////////////////////////$
 $///////$

n=8. k1=1

$[w \ w \ w \ w \ w \ w \ w \ w]$
 $[1 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 1]$
 $[0 \ 1 \ 0 \ 0 \ 0 \ 0 \ 0 \ 1]$
 $[0 \ 0 \ 1 \ 0 \ 0 \ 0 \ 0 \ 1]$
 $[0 \ 0 \ 0 \ 1 \ 0 \ 0 \ 0 \ 1]$
 $[0 \ 0 \ 0 \ 0 \ 1 \ 0 \ 0 \ 1]$
 $[0 \ 0 \ 0 \ 0 \ 0 \ 1 \ 0 \ 1]$
 $[0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 1 \ 1]$

[<0, 1>, <2, 28>, <4, 70>, <6, 28>, <8, 129>]

[1 0 1 0 0 0 0 0]
[w 0 w 0 0 0 0 0]
[0 1 0 0 0 0 0 0]
[0 0 0 1 0 0 0 0]
[0 0 0 0 1 0 0 0]
[0 0 0 0 0 1 0 0]
[0 0 0 0 0 0 1 0]
[0 0 0 0 0 0 0 1],
[<0, 1>, <1, 6>, <2, 18>, <3, 38>, <4, 60>, <5, 66>, <6, 46>, <7, 18>, <8, 3>]

[1 0 0 0 1 0 0 0]
[w 0 w w w 0 0 0]
[0 1 0 0 0 0 0 0]
[0 0 1 0 1 0 0 0]
[0 0 0 1 1 0 0 0]
[0 0 0 0 0 1 0 0]
[0 0 0 0 0 0 1 0]
[0 0 0 0 0 0 0 1],
[<0, 1>, <1, 2>, <2, 16>, <3, 30>, <4, 30>, <5, 30>, <6, 48>, <7, 66>, <8, 33>]

[1 0 0 0 0 0 1 0]
[w 0 w w w w w 0]
[0 1 0 0 0 0 0 0]
[0 0 1 0 0 0 1 0]
[0 0 0 1 0 0 1 0]
[0 0 0 0 1 0 1 0]
[0 0 0 0 0 1 1 0]
[0 0 0 0 0 0 0 1]

[<0, 1>, <1, 4>, <2, 12>, <3, 28>, <4, 46>, <5, 60>, <6, 60>, <7, 36>, <8, 9>]

n=8. k1= 2

[1 0 1 0 0 0 0 0]
[w 0 w 0 0 0 0 0]
[0 1 0 0 0 0 0 1]
[0 w 0 w w w w w]
[0 0 0 1 0 0 0 1]
[0 0 0 0 1 0 0 1]
[0 0 0 0 0 1 0 1]
[0 0 0 0 0 0 1 1],
[<0, 1>, <2, 12>, <4, 54>, <6, 108>, <8, 81>]

[1 0 0 0 1 0 0 0]
[w 0 w w w 0 0 0]
[0 1 0 0 0 0 0 1]
[0 w 0 0 0 w w w]
[0 0 1 0 1 0 0 0]
[0 0 0 1 1 0 0 0]
[0 0 0 0 0 1 0 1]
[0 0 0 0 0 0 1 1]
[<0, 1>, <2, 18>, <4, 60>, <6, 78>, <8, 99>]

[1 0 1 0 0 0 0 0]
[w 0 w 0 0 0 0 0]
[0 1 0 0 1 0 0 0]
[0 w 0 0 w 0 0 0]
[0 0 0 1 0 0 0 0]
[0 0 0 0 0 1 0 0]
[0 0 0 0 0 0 1 0]
[0 0 0 0 0 0 0 1],

[<0, 1>, <1, 2>, <2, 10>, <3, 18>, <4, 36>, <5, 54>, <6, 54>, <7, 54>, <8, 27>]

[1 0 0 0 1 1 0 0]
[w 0 w w 0 w 0 0]
[0 1 0 0 1 0 0 0]
[0 w 0 w w w 0 0]
[0 0 1 0 1 1 0 0]
[0 0 0 1 0 1 0 0]
[0 0 0 0 0 0 1 0]
[0 0 0 0 0 0 0 1],

[<0, 1>, <1, 4>, <2, 12>, <3, 28>, <4, 46>, <5, 60>, <6, 60>, <7, 36>, <8, 9>]

[1 0 0 0 0 0 1 0]
[w 0 0 w 0 w w 0]
[0 1 0 0 0 0 0 0]
[0 0 1 0 1 0 0 0]
[0 0 w 0 w 0 0 0]
[0 0 0 1 0 0 1 0]
[0 0 0 0 0 1 1 0]
[0 0 0 0 0 0 0 1],

[<0, 1>, <1, 2>, <2, 4>, <3, 14>, <4, 34>, <5, 62>, <6, 76>, <7, 50>, <8, 13>]

[1 0 0 0 1 0 0 1]
[w 0 w w 0 w w w]
[0 1 0 0 1 0 0 0]
[0 w 0 w w w w w]
[0 0 1 0 1 0 0 1]
[0 0 0 1 0 0 0 1]
[0 0 0 0 0 1 0 1]

[0 0 0 0 0 0 1 1]
 [<0, 1>, <1, 4>, <2, 12>, <3, 28>, <4, 46>, <5, 60>, <6, 60>, <7, 36>, <8, 9>]

n=8. k1=3

[1 0 1 0 0 0 0 0]
 [w 0 w 0 0 0 0 0]
 [0 1 0 0 1 0 0 0]
 [0 w 0 0 w 0 0 0]
 [0 0 0 1 0 0 0 1]
 [0 0 0 w 0 w w w]
 [0 0 0 0 0 1 0 1]
 [0 0 0 0 0 0 1 1],
 [<0, 1>, <2, 4>, <4, 46>, <6, 148>, <8, 57>]

[1 0 0 0 1 1 0 1]
 [w 0 w 0 0 0 w w]
 [0 1 0 0 1 0 0 0]
 [0 w 0 0 w 0 w w]
 [0 0 1 0 1 1 0 1]
 [0 0 0 1 0 1 0 0]
 [0 0 0 w 0 w w w]
 [0 0 0 0 0 0 1 1]
 [<0, 1>, <2, 12>, <4, 54>, <6, 108>, <8, 81>]

[1 0 1 0 0 0 0 0]
 [w 0 w 0 0 0 0 0]
 [0 1 0 0 1 0 0 0]
 [0 w 0 0 w 0 0 0]
 [0 0 0 1 0 0 1 0]
 [0 0 0 w 0 0 w 0]

[0 0 0 0 0 1 0 0]
 [0 0 0 0 0 0 0 1]
 [<0, 1>, <1, 2>, <2, 10>, <3, 18>, <4, 36>, <5, 54>, <6,
 54>, <7, 54>, <8, 27>]

[1 0 0 0 1 1 1 0]
 [w 0 0 0 w w w 0]
 [0 1 0 0 1 0 1 0]
 [0 w 0 w w w 0 0]
 [0 0 1 0 1 1 0 0]
 [0 0 w w w 0 w 0]
 [0 0 0 1 0 1 1 0]
 [0 0 0 0 0 0 0 1]
 [<0, 1>, <1, 1>, <3, 7>, <4, 28>, <5, 63>, <6, 84>, <7,
 57>, <8, 15>]

[1 0 0 0 1 0 0 1]
 [w 0 w 0 0 w 0 w]
 [0 1 0 0 1 0 0 0]
 [0 w 0 0 w w 0 w]
 [0 0 1 0 1 0 0 1]
 [0 0 0 1 0 0 1 0]
 [0 0 0 w 0 0 w 0]
 [0 0 0 0 0 1 0 1]
 [<0, 1>, <2, 6>, <3, 8>, <4, 24>, <5, 48>, <6, 58>, <7,
 72>, <8, 39>]

n=8. k1=4

[1 0 1 0 0 0 0 0]
 [0 1 0 0 1 0 0 0]
 [0 0 0 1 0 0 1 0]

[0 0 0 0 0 1 0 1]
 [< 0,1 >,< 2,12 >,< 4,54 >,< 6,108 >,< 8,81 >] (linear)

[1 0 0 0 1 1 1 0]
 [0 1 0 0 1 0 1 1]
 [0 0 1 0 1 1 0 1]
 [0 0 0 1 0 1 1 1]
 [< 0,1 >,< 4,42 >,< 6,168 >,< 8,45 >] (linear)

////////////////////////////////////

//////

n=10 k1=1 (5 codes)

[w w w w w w w w w w]
 [1 0 0 0 0 0 0 0 0 1]
 [0 1 0 0 0 0 0 0 0 1]
 [0 0 1 0 0 0 0 0 0 1]
 [0 0 0 1 0 0 0 0 0 1]
 [0 0 0 0 1 0 0 0 0 1]
 [0 0 0 0 0 1 0 0 0 1]
 [0 0 0 0 0 0 1 0 0 1]
 [0 0 0 0 0 0 0 1 0 1]
 [0 0 0 0 0 0 0 0 1 1]
 [<0, 1>, <2, 45>, <4, 210>, <6, 210>, <8, 45>, <10, 513>]

[1 0 1 0 0 0 0 0 0 0]
 [w 0 w 0 0 0 0 0 0 0]
 [0 1 0 0 0 0 0 0 0 0]
 [0 0 0 1 0 0 0 0 0 0]
 [0 0 0 0 1 0 0 0 0 0]
 [0 0 0 0 0 1 0 0 0 0]

[0 0 0 0 0 0 1 0 0 0]
 [0 0 0 0 0 0 0 1 0 0]
 [0 0 0 0 0 0 0 0 1 0]
 [0 0 0 0 0 0 0 0 0 1]
 [<0, 1>, <1, 8>, <2, 31>, <3, 80>, <4, 154>, <5, 224>,
 <6, 238>, <7, 176>, <8,
 85>, <9, 24>, <10, 3>]

[1 0 0 0 1 0 0 0 0 0]
 [w 0 w w w 0 0 0 0 0]
 [0 1 0 0 0 0 0 0 0 0]
 [0 0 1 0 1 0 0 0 0 0]
 [0 0 0 1 1 0 0 0 0 0]
 [0 0 0 0 0 1 0 0 0 0]
 [0 0 0 0 0 0 1 0 0 0]
 [0 0 0 0 0 0 0 1 0 0]
 [0 0 0 0 0 0 0 0 1 0]
 [0 0 0 0 0 0 0 0 0 1]
 [<0, 1>, <1, 6>, <2, 21>, <3, 56>, <4, 114>, <5, 180>,
 <6, 226>, <7, 216>, <8,
 141>, <9, 54>, <10, 9>]

[1 0 0 0 0 0 1 0 0 0]
 [w 0 w w w w w 0 0 0]
 [0 1 0 0 0 0 0 0 0 0]
 [0 0 1 0 0 0 1 0 0 0]
 [0 0 0 1 0 0 1 0 0 0]
 [0 0 0 0 1 0 1 0 0 0]
 [0 0 0 0 0 1 1 0 0 0]
 [0 0 0 0 0 0 0 1 0 0]
 [0 0 0 0 0 0 0 0 1 0]
 [0 0 0 0 0 0 0 0 0 1]

[<0, 1>, <1, 4>, <2, 21>, <3, 64>, <4, 106>, <5, 120>, <6, 138>, <7, 192>, <8, 213>, <9, 132>, <10, 33>]

[1 0 0 0 0 0 0 0 1 0]
 [w 0 w w w w w w w 0]
 [0 1 0 0 0 0 0 0 0 0]
 [0 0 1 0 0 0 0 0 1 0]
 [0 0 0 1 0 0 0 0 1 0]
 [0 0 0 0 1 0 0 0 1 0]
 [0 0 0 0 0 1 0 0 1 0]
 [0 0 0 0 0 0 1 0 1 0]
 [0 0 0 0 0 0 0 1 1 0]
 [0 0 0 0 0 0 0 0 0 1]

[<0, 1>, <1, 2>, <2, 29>, <3, 56>, <4, 98>, <5, 140>, <6, 98>, <7, 56>, <8, 157>, <9, 258>, <10, 129>]

n=10 k1=2. (10 codes)

[w 0 w 0 0 0 0 0 0 0]
 [0 w 0 0 w 0 0 0 0 0]
 [1 0 1 0 0 0 0 0 0]
 [0 1 0 0 1 0 0 0 0]
 [0 0 0 1 0 0 0 0 0]
 [0 0 0 0 0 1 0 0 0]
 [0 0 0 0 0 0 1 0 0]
 [0 0 0 0 0 0 0 1 0]
 [0 0 0 0 0 0 0 0 1]
 [0 0 0 0 0 0 0 0 0]

[<0, 1>, <1, 6>, <2, 21>, <3, 56>, <4, 114>, <5, 180>, <6, 226>, <7, 216>,]

<8, 141>, <9, 54>, <10, 9>]

[w 0 w w 0 w 0 0 0 0]

[0 w 0 w w w 0 0 0 0]

[1 0 0 0 1 1 0 0 0 0]

[0 1 0 0 1 0 0 0 0 0]

[0 0 1 0 1 1 0 0 0 0]

[0 0 0 1 0 1 0 0 0 0]

[0 0 0 0 0 0 1 0 0 0]

[0 0 0 0 0 0 0 1 0 0]

[0 0 0 0 0 0 0 0 1 0]

[0 0 0 0 0 0 0 0 0 1]

[<0, 1>, <1, 4>, <2, 9>, <3, 24>, <4, 66>, <5, 144>, <6, 234>, <7, 264>, <8, 189>, <9, 76>, <10, 13>]

[w 0 0 w 0 w w 0 0 0]

[0 0 w 0 w 0 0 0 0 0]

[1 0 0 0 0 0 1 0 0 0]

[0 1 0 0 0 0 0 0 0 0]

[0 0 1 0 1 0 0 0 0 0]

[0 0 0 1 0 0 1 0 0 0]

[0 0 0 0 0 1 1 0 0 0]

[0 0 0 0 0 0 0 1 0 0]

[0 0 0 0 0 0 0 0 1 0]

[0 0 0 0 0 0 0 0 0 1]

[<0, 1>, <1, 4>, <2, 15>, <3, 40>, <4, 82>, <5, 144>, <6, 198>, <7, 216>, <8, 189>, <9, 108>, <10, 27>]

[w 0 w w 0 w w w 0 0]

[0 w 0 w w w w w 0 0]

[1 0 0 0 1 0 0 1 0 0]
 [0 1 0 0 1 0 0 0 0 0]
 [0 0 1 0 1 0 0 1 0 0]
 [0 0 0 1 0 0 0 1 0 0]
 [0 0 0 0 0 1 0 1 0 0]
 [0 0 0 0 0 0 1 1 0 0]
 [0 0 0 0 0 0 0 0 1 0]
 [0 0 0 0 0 0 0 0 0 1]
 [<0, 1>, <1, 2>, <2, 9>, <3, 32>, <4, 58>, <5, 84>, <6,
 146>, <7, 240>, <8,
 261>, <9, 154>, <10, 37>]

[w 0 0 w 0 w w w w 0]
 [0 0 w 0 w 0 0 0 0 0]
 [1 0 0 0 0 0 0 0 1 0]
 [0 1 0 0 0 0 0 0 0 0]
 [0 0 1 0 1 0 0 0 0 0]
 [0 0 0 1 0 0 0 0 1 0]
 [0 0 0 0 0 1 0 0 1 0]
 [0 0 0 0 0 0 1 0 1 0]
 [0 0 0 0 0 0 0 1 1 0]
 [0 0 0 0 0 0 0 0 0 1]
 [<0, 1>, <1, 2>, <2, 19>, <3, 36>, <4, 78>, <5, 120>,
 <6, 138>, <7, 156>, <8,
 177>, <9, 198>, <10, 99>]

[w 0 w w 0 w w w w w]
 [0 w 0 w w w w w w w]
 [1 0 0 0 1 0 0 0 0 1]
 [0 1 0 0 1 0 0 0 0 0]
 [0 0 1 0 1 0 0 0 0 1]
 [0 0 0 1 0 0 0 0 0 1]

[0 0 0 0 0 1 0 0 0 1]
 [0 0 0 0 0 0 1 0 0 1]
 [0 0 0 0 0 0 0 1 0 1]
 [0 0 0 0 0 0 0 0 1 1]
 [<0, 1>, <2, 17>, <3, 24>, <4, 50>, <5, 104>, <6, 106>,
 <7, 104>, <8, 205>, <9,
 280>, <10, 133>]

[w 0 0 w 0 0 0 w w 0]
 [0 0 w 0 w w w 0 0 0]
 [1 0 0 0 0 0 0 0 1 0]
 [0 1 0 0 0 0 0 0 0 0]
 [0 0 1 0 0 0 1 0 0 0]
 [0 0 0 1 0 0 0 0 1 0]
 [0 0 0 0 1 0 1 0 0 0]
 [0 0 0 0 0 1 1 0 0 0]
 [0 0 0 0 0 0 0 1 1 0]
 [0 0 0 0 0 0 0 0 0 1]
 [<0, 1>, <1, 2>, <2, 13>, <3, 24>, <4, 66>, <5, 108>,
 <6, 162>, <7, 216>, <8,
 189>, <9, 162>, <10, 81>]

[w 0 w w 0 0 0 w w w]
 [0 w 0 w w w w w w w]
 [1 0 0 0 0 0 1 0 0 1]
 [0 1 0 0 0 0 1 0 0 0]
 [0 0 1 0 0 0 1 0 0 1]
 [0 0 0 1 0 0 0 0 0 1]
 [0 0 0 0 1 0 1 0 0 0]
 [0 0 0 0 0 1 1 0 0 0]
 [0 0 0 0 0 0 0 1 0 1]
 [0 0 0 0 0 0 0 0 1 1]

[<0, 1>, <2, 13>, <3, 32>, <4, 50>, <5, 64>, <6, 82>, <7, 160>, <8, 269>, <9, 256>, <10, 97>]

[1 0 1 0 0 0 0 0 0 0]
 [w 0 w 0 0 0 0 0 0 0]
 [0 1 0 0 0 0 0 0 0 1]
 [0 w 0 w w w w w w w]
 [0 0 0 1 0 0 0 0 0 1]
 [0 0 0 0 1 0 0 0 0 1]
 [0 0 0 0 0 1 0 0 0 1]
 [0 0 0 0 0 0 1 0 0 1]
 [0 0 0 0 0 0 0 1 0 1]
 [0 0 0 0 0 0 0 0 1 1],

[<0, 1>, <2, 31>, <4, 154>, <6, 238>, <8, 213>, <10, 387>]

[1 0 0 0 1 0 0 0 0 0]
 [w 0 w w w 0 0 0 0 0]
 [0 1 0 0 0 0 0 0 0 1]
 [0 w 0 0 0 w w w w w]
 [0 0 1 0 1 0 0 0 0 0]
 [0 0 0 1 1 0 0 0 0 0]
 [0 0 0 0 0 1 0 0 0 1]
 [0 0 0 0 0 0 1 0 0 1]
 [0 0 0 0 0 0 0 1 0 1]
 [0 0 0 0 0 0 0 0 1 1]

[<0, 1>, <2, 21>, <4, 114>, <6, 258>, <8, 333>, <10, 297>]

n=10 k1=3. (12 codes)

[1 0 1 0 0 0 0 0 0 0]
 [w 0 w 0 0 0 0 0 0 0]
 [0 1 0 0 1 0 0 0 0 0]
 [0 w 0 0 w 0 0 0 0 0]
 [0 0 0 1 0 0 1 0 0 0]
 [0 0 0 w 0 0 w 0 0 0]
 [0 0 0 0 0 1 0 0 0 0]
 [0 0 0 0 0 0 0 1 0 0]
 [0 0 0 0 0 0 0 0 1 0]
 [0 0 0 0 0 0 0 0 0 1],
 [<0, 1>, <1, 3>, <2, 3>, <3, 8>, <4, 42>, <5, 126>, <6,
 238>, <7, 288>, <8, 213>, <9, 87>, <10,
 15>]

[1 0 0 0 1 1 1 0 0 0]
 [w 0 0 0 w w w 0 0 0]
 [0 1 0 0 1 0 1 0 0 0]
 [0 w 0 w w w 0 0 0 0]
 [0 0 1 0 1 1 0 0 0 0]
 [0 0 w w w 0 w 0 0 0]
 [0 0 0 1 0 1 1 0 0 0]
 [0 0 0 0 0 0 0 1 0 0]
 [0 0 0 0 0 0 0 0 1 0]
 [0 0 0 0 0 0 0 0 0 1],
 [<0, 1>, <1, 4>, <2, 15>, <3, 40>, <4, 82>, <5, 144>,
 <6, 198>, <7, 216>, <8, 189>, <9, 108>, <10,
 27>]

[1 0 0 0 1 0 0 1 0 0]
 [w 0 w 0 0 w 0 w 0 0]
 [0 1 0 0 1 0 0 0 0 0]
 [0 w 0 0 w w 0 w 0 0]

[0 0 1 0 1 0 0 1 0 0]
 [0 0 0 1 0 0 1 0 0 0]
 [0 0 0 w 0 0 w 0 0 0]
 [0 0 0 0 0 1 0 1 0 0]
 [0 0 0 0 0 0 0 0 1 0]
 [0 0 0 0 0 0 0 0 0 1],
 [<0, 1>, <1, 2>, <2, 5>, <3, 8>, <4, 50>, <5, 92>, <6,
 194>, <7, 296>, <8, 205>, <9, 114>, <10,
 57>]

[1 0 0 0 0 0 0 0 1 0]
 [w 0 0 0 0 w 0 w w 0]
 [0 1 0 0 0 0 0 0 0 0]
 [0 0 1 0 1 0 0 0 0 0]
 [0 0 w 0 w 0 0 0 0 0]
 [0 0 0 1 0 0 1 0 0 0]
 [0 0 0 w 0 0 w 0 0 0]
 [0 0 0 0 0 1 0 0 1 0]
 [0 0 0 0 0 0 0 1 1 0]
 [0 0 0 0 0 0 0 0 0 1],
 [<0, 1>, <1, 2>, <2, 13>, <3, 24>, <4, 66>, <5, 108>,
 <6, 162>, <7, 216>, <8, 189>, <9, 162>, <10, 81>]

[1 0 0 0 1 0 1 0 1 0]
 [w 0 0 0 w w w w w 0]
 [0 1 0 0 1 0 1 0 0 0]
 [0 w 0 w w w 0 w w 0]
 [0 0 1 0 1 0 0 0 1 0]
 [0 0 w w w 0 w 0 0 0]
 [0 0 0 1 0 0 1 0 1 0]
 [0 0 0 0 0 1 0 0 1 0]
 [0 0 0 0 0 0 0 1 1 0]

[0 0 0 0 0 0 0 0 0 0 1],
 [<0, 1>, <1, 2>, <2, 7>, <3, 20>, <4, 46>, <5, 104>, <6, 178>, <7, 236>, <8, 241>, <9, 150>, <10, 39>]

[1 0 0 0 1 0 0 0 0 0 1]
 [w 0 w 0 0 w 0 w w w]
 [0 1 0 0 1 0 0 0 0 0 0]
 [0 w 0 0 w w 0 w w w]
 [0 0 1 0 1 0 0 0 0 0 1]
 [0 0 0 1 0 0 1 0 0 0 0]
 [0 0 0 w 0 0 w 0 0 0 0]
 [0 0 0 0 0 1 0 0 0 0 1]
 [0 0 0 0 0 0 0 1 0 0 1]
 [0 0 0 0 0 0 0 0 0 1 1],
 [<0, 1>, <2, 5>, <3, 16>, <4, 34>, <5, 48>, <6, 114>, <7, 240>, <8, 285>, <9, 208>, <10, 73>]

[1 0 0 0 0 0 0 0 1 0]
 [w 0 0 0 0 w 0 w w 0]
 [0 1 0 0 0 0 0 0 0 0]
 [0 0 1 0 0 0 1 1 1 0]
 [0 0 w 0 w w 0 w 0 0]
 [0 0 0 1 0 0 1 0 0 0]
 [0 0 0 w 0 w w w 0 0]
 [0 0 0 0 1 0 1 1 1 0]
 [0 0 0 0 0 1 0 1 0 0]
 [0 0 0 0 0 0 0 0 0 1],
 [<0, 1>, <1, 1>, <2, 3>, <3, 16>, <4, 34>, <5, 66>, <6, 150>, <7, 264>, <8, 285>, <9, 165>, <10, 39>]

[1 0 0 0 0 0 1 1 0 1]
 [w 0 w 0 0 0 0 0 w w]

[0 1 0 0 0 0 1 1 0 0]
 [0 w 0 0 w w 0 w w w]
 [0 0 1 0 0 0 1 1 0 1]
 [0 0 0 1 0 0 1 0 0 0]
 [0 0 0 w 0 w w w 0 0]
 [0 0 0 0 1 0 1 1 0 0]
 [0 0 0 0 0 1 0 1 0 0]
 [0 0 0 0 0 0 0 0 1 1],
 [<0, 1>, <2, 9>, <3, 8>, <4, 42>, <5, 72>, <6, 130>, <7, 216>, <8, 213>, <9, 216>, <10, 117>]

[1 0 0 0 0 0 1 0 0 1]
 [w 0 0 w w 0 0 0 0 w]
 [0 1 0 0 0 0 1 0 0 0]
 [0 w 0 w 0 0 w 0 0 w]
 [0 0 1 0 0 0 0 0 1 0]
 [0 0 w 0 0 w 0 w w 0]
 [0 0 0 1 0 0 0 0 0 1]
 [0 0 0 0 1 0 1 0 0 1]
 [0 0 0 0 0 1 0 0 1 0]
 [0 0 0 0 0 0 0 1 1 0]
 [<0, 1>, <2, 11>, <3, 16>, <4, 42>, <5, 80>, <6, 118>, <7, 176>, <8, 229>, <9, 240>, <10, 111>]

[1 0 1 0 0 0 0 0 0 0]
 [w 0 w 0 0 0 0 0 0 0]
 [0 1 0 0 1 0 0 0 0 0]
 [0 w 0 0 w 0 0 0 0 0]
 [0 0 0 1 0 0 0 0 0 1]
 [0 0 0 w 0 w w w w w]
 [0 0 0 0 0 1 0 0 0 1]
 [0 0 0 0 0 0 1 0 0 1]

[0 0 0 0 0 0 0 1 0 1]
 [0 0 0 0 0 0 0 0 1 1],
 [<0, 1>, <2, 9>, <4, 66>, <6, 282>, <8, 477>, <10,
 189>]

[1 0 0 0 1 1 0 0 0 1]
 [w 0 w 0 0 0 w w w w]
 [0 1 0 0 1 0 0 0 0 0]
 [0 w 0 0 w 0 w w w w]
 [0 0 1 0 1 1 0 0 0 1]
 [0 0 0 1 0 1 0 0 0 0]
 [0 0 0 w 0 w w w w w]
 [0 0 0 0 0 0 1 0 0 1]
 [0 0 0 0 0 0 0 1 0 1]
 [0 0 0 0 0 0 0 0 1 1],
 [<0, 1>, <2, 21>, <4, 114>, <6, 258>, <8, 333>, <10,
 297>]

[1 0 0 0 0 0 1 0 0 0]
 [w 0 0 w 0 w w 0 0 0]
 [0 1 0 0 0 0 0 0 0 1]
 [0 w 0 0 0 0 0 w w w]
 [0 0 1 0 1 0 0 0 0 0]
 [0 0 w 0 w 0 0 0 0 0]
 [0 0 0 1 0 0 1 0 0 0]
 [0 0 0 0 0 1 1 0 0 0]
 [0 0 0 0 0 0 0 1 0 1]
 [0 0 0 0 0 0 0 0 1 1]
 [<0, 1>, <2, 15>, <4, 90>, <6, 270>, <8, 405>, <10,
 243>]

n=10 k1=4 (9 codes)

[1 0 1 0 0 0 0 0 0 0]
 [w 0 w 0 0 0 0 0 0 0]
 [0 1 0 0 1 0 0 0 0 0]
 [0 w 0 0 w 0 0 0 0 0]
 [0 0 0 1 0 0 1 0 0 0]
 [0 0 0 w 0 0 w 0 0 0]
 [0 0 0 0 0 1 0 0 0 1]
 [0 0 0 0 0 w 0 w w w]
 [0 0 0 0 0 0 0 1 0 1]
 [0 0 0 0 0 0 0 0 1 1],
 [<0, 1>, <2, 7>, <4, 58>, <6, 286>, <8, 501>, <10,
 171>]

[1 0 0 0 1 1 1 0 0 0]
 [w 0 0 0 w w w 0 0 0]
 [0 1 0 0 1 0 1 0 0 1]
 [0 w 0 0 w 0 w w w w]
 [0 0 1 0 1 1 0 0 0 1]
 [0 0 w 0 w w 0 w w w]
 [0 0 0 1 0 1 1 0 0 1]
 [0 0 0 w 0 w w w w w]
 [0 0 0 0 0 0 0 1 0 1]
 [0 0 0 0 0 0 0 0 1 1],
 [<0, 1>, <2, 15>, <4, 90>, <6, 270>, <8, 405>, <10,
 243>]

[1 0 0 0 1 0 0 1 0 1]
 [w 0 w 0 0 0 0 0 w w]
 [0 1 0 0 1 0 0 0 0 0]
 [0 w 0 0 w 0 0 0 w w]
 [0 0 1 0 1 0 0 1 0 1]
 [0 0 0 1 0 0 1 0 0 0]

[0 0 0 w 0 0 w 0 0 0]
 [0 0 0 0 0 1 0 1 0 0]
 [0 0 0 0 0 w 0 w w w]
 [0 0 0 0 0 0 0 0 1 1]
 [<0, 1>, <2, 3>, <4, 42>, <6, 294>, <8, 549>, <10, 135>]

[1 0 1 0 0 0 0 0 0 0]
 [w 0 w 0 0 0 0 0 0 0]
 [0 1 0 0 1 0 0 0 0 0]
 [0 w 0 0 w 0 0 0 0 0]
 [0 0 0 1 0 0 1 0 0 0]
 [0 0 0 w 0 0 w 0 0 0]
 [0 0 0 0 0 1 0 0 1 0]
 [0 0 0 0 0 w 0 0 w 0]
 [0 0 0 0 0 0 0 1 0 0]
 [0 0 0 0 0 0 0 0 0 1]
 [<0, 1>, <1, 2>, <2, 13>, <3, 24>, <4, 66>, <5, 108>, <6, 162>, <7, 216>, <8, 189>, <9, 162>, <10, 81>]

[1 0 0 0 1 1 1 0 0 0]
 [w 0 0 0 w w w 0 0 0]
 [0 1 0 0 1 0 1 0 1 0]
 [0 w 0 0 w 0 w 0 w 0]
 [0 0 1 0 1 1 0 0 1 0]
 [0 0 w 0 w w 0 0 w 0]
 [0 0 0 1 0 1 1 0 1 0]
 [0 0 0 w 0 w w 0 w 0]
 [0 0 0 0 0 0 0 1 0 0]
 [0 0 0 0 0 0 0 0 0 1]
 [<0, 1>, <1, 2>, <2, 1>, <4, 42>, <5, 84>, <6, 210>, <7,

336>, <8, 213>, <9,
90>, <10, 45>]

[1 0 0 0 1 0 1 1 0 0]
[w 0 0 0 w 0 w w 0 0]
[0 1 0 0 1 0 1 0 0 0]
[0 w 0 w w 0 0 w 0 0]
[0 0 1 0 1 0 0 1 0 0]
[0 0 w w w 0 w 0 0 0]
[0 0 0 1 0 0 1 1 0 0]
[0 0 0 0 0 1 0 0 1 0]
[0 0 0 0 0 w 0 0 w 0]
[0 0 0 0 0 0 0 0 0 1]
[<0, 1>, <1, 1>, <2, 3>, <3, 10>, <4, 28>, <5, 84>, <6,
168>, <7, 246>, <8,
267>, <9, 171>, <10, 45>]

[1 0 0 0 1 0 0 0 0 1]
[w 0 w 0 0 0 0 w 0 w]
[0 1 0 0 1 0 0 0 0 0]
[0 w 0 0 w 0 0 w 0 w]
[0 0 1 0 1 0 0 0 0 1]
[0 0 0 1 0 0 1 0 0 0]
[0 0 0 w 0 0 w 0 0 0]
[0 0 0 0 0 1 0 0 1 0]
[0 0 0 0 0 w 0 0 w 0]
[0 0 0 0 0 0 0 1 0 1]
[<0, 1>, <2, 9>, <3, 8>, <4, 42>, <5, 72>, <6, 130>, <7,
216>, <8, 213>, <9,
216>, <10, 117>]

[1 0 0 0 1 0 1 0 1 1]

[w 0 0 0 w w w w 0 w]
 [0 1 0 0 1 0 1 0 1 0]
 [0 w 0 0 w 0 w w w w]
 [0 0 1 0 1 0 0 0 0 1]
 [0 0 w 0 w w 0 0 w 0]
 [0 0 0 1 0 0 1 0 0 1]
 [0 0 0 w 0 w w 0 w 0]
 [0 0 0 0 0 1 0 0 1 1]
 [0 0 0 0 0 0 0 1 0 1]
 [<0, 1>, <2, 1>, <3, 8>, <4, 26>, <5, 40>, <6, 130>, <7,
 280>, <8, 293>, <9,
 184>, <10, 61>]

[1 0 0 0 0 1 0 0 0 0]
 [w 0 0 0 0 w 0 w 0 w]
 [0 1 0 0 0 0 0 0 1 0]
 [0 w 0 0 0 0 0 w w w]
 [0 0 1 0 0 1 1 0 1 1]
 [0 0 w 0 w 0 0 w 0 w]
 [0 0 0 1 0 0 1 0 0 0]
 [0 0 0 w 0 0 w w 0 w]
 [0 0 0 0 1 1 1 0 1 1]
 [0 0 0 0 0 0 0 1 0 1]
 [<0, 1>, <2, 5>, <4, 50>, <5, 32>, <6, 130>, <7, 320>,
 <8, 205>, <9, 160>, <10,
 121>]

n=10 k1=5. (2 codes)

[1 0 1 0 0 0 0 0 0 0]
 [0 1 0 0 1 0 0 0 0 0]
 [0 0 0 1 0 0 1 0 0 0]
 [0 0 0 0 0 1 0 0 1 0]

[0 0 0 0 0 0 0 1 0 1]
[< 0,1 >,< 2,3 >,< 4,42 >,< 6,294 >,< 8,549 >,< 10,135
>] (linear)

[1 0 0 0 1 1 1 0 0 0]
[0 1 0 0 1 0 1 0 1 0]
[0 0 1 0 1 1 0 0 1 0]
[0 0 0 1 0 1 1 0 1 0]
[0 0 0 0 0 0 0 1 0 1]
[< 0,1 >,< 2,15 >,< 4,90 >,< 6,270 >,< 8,405 >,< 10,243
>]

////////////////////////////////////
/////

n=12

k1=1

Type IV

[< 0; 1 >;< 2; 66 >;< 4; 495 >;< 6; 924 >;< 8; 495 >;< 10;
66 >;<
12; 2049 >]

Non Type IV

[< 0; 1 >;< 1; 4 >;< 2; 34 >;< 3; 116 >;< 4; 239 >;< 5; 392
>;<

6; 476 >;< 7; 392 >;< 8; 367 >;< 9; 628 >;< 10; 802 >;<
11; 516 >

>;< 12; 129 >];

[< 0; 1 >;< 1; 8 >;< 2; 34 >;< 3; 104 >;< 4; 247 >;< 5; 464
>;<

6; 700 >;< 7; 848 >;< 8; 799 >;< 9; 552 >;< 10; 258 >;<
11; 72 >;<

12; 9 >];

[< 0; 1 >;< 1; 10 >;< 2; 48 >;< 3; 150 >;< 4; 345 >;< 5;

612 >;<
6; 840 >;< 7; 876 >;< 8; 675 >;< 9; 370 >;< 10; 136 >;<
11; 30 >;<
12; 3 >];
[< 0; 1 >;< 1; 2 >;< 2; 46 >;< 3; 90 >;< 4; 255 >;< 5; 420
>;<
6; 420 >;< 7; 420 >;< 8; 255 >;< 9; 90 >;< 10; 558 >;<
11; 1026 >
>;< 12; 513 >];
[< 0; 1 >;< 1; 6 >;< 2; 30 >;< 3; 110 >;< 4; 255 >;< 5; 396
>;<
6; 484 >;< 7; 588 >;< 8; 735 >;< 9; 750 >;< 10; 510 >;<
11; 198 >
>;< 12; 33 >];

k1=2

Type IV

[< 0; 1 >;< 2; 30 >;< 4; 255 >;< 6; 516 >;< 8; 1215 >;<
10; 990 >;<
12; 1089 >];
[< 0; 1 >;< 2; 48 >;< 4; 345 >;< 6; 840 >;< 8; 675 >;< 10;
648 >;<
12; 1539 >];
[< 0; 1 >;< 2; 34 >;< 4; 247 >;< 6; 700 >;< 8; 927 >;< 10;
1026 >;<
12; 1161 >]

Non Type IV

[< 0; 1 >;< 1; 4 >;< 2; 14 >;< 3; 52 >;< 4; 131 >;< 5; 232
>;<
6; 372 >;< 7; 616 >;< 8; 887 >;< 9; 916 >;< 10; 606 >;<
11; 228 >

;< 12; 37 >];
[< 0; 1 >;< 1; 2 >;< 2; 32 >;< 3; 62 >;< 4; 185 >;< 5; 308
>;<
6; 392 >;< 7; 476 >;< 8; 451 >;< 9; 426 >;< 10; 600 >;<
11; 774 >
;< 12; 387 >];
[< 0; 1 >;< 2; 22 >;< 3; 48 >;< 4; 127 >;< 5; 208 >;< 6;
228 >;<
7; 304 >;< 8; 431 >;< 9; 624 >;< 10; 902 >;< 11; 864 >;<
12; 337 >];
[< 0; 1 >;< 2; 30 >;< 3; 32 >;< 4; 131 >;< 5; 256 >;< 6;
308 >;<
7; 448 >;< 8; 407 >;< 9; 256 >;< 10; 654 >;< 11; 1056
>;< 12; 517 >
];
[< 0; 1 >;< 2; 18 >;< 3; 64 >;< 4; 111 >;< 5; 192 >;< 6;
252 >;<7; 192 >
;< 8; 303 >;< 9; 832 >;< 10; 1170 >;< 11; 768 >;< 12;
193 >
];
[< 0; 1 >;< 1; 8 >;< 2; 34 >;< 3; 104 >;< 4; 247 >;< 5; 464
>;<
6; 700 >;< 7; 848 >;< 8; 799 >;< 9; 552 >;< 10; 258 >;<
11; 72 >;<
12; 9 >];
[< 0; 1 >;< 1; 6 >;< 2; 18 >;< 3; 46 >;< 4; 123 >;< 5; 300
>;<
6; 588 >;< 7; 876 >;< 8; 951 >;< 9; 718 >;< 10; 354 >;<
11; 102 >
;< 12; 13 >];
[< 0; 1 >;< 1; 2 >;< 2; 14 >;< 3; 58 >;< 4; 127 >;< 5; 196
>;<

6; 260 >;< 7; 388 >;< 8; 671 >;< 9; 954 >;< 10; 878 >;<
11; 450 >

;< 12; 97 >];

[< 0; 1 >;< 1; 2 >;< 2; 18 >;< 3; 58 >;< 4; 115 >;< 5; 228
>;<

6; 364 >;< 7; 420 >;< 8; 519 >;< 9; 794 >;< 10; 898 >;<
11; 546 >

;< 12; 133 >];

[< 0; 1 >;< 1; 2 >;< 2; 22 >;< 3; 42 >;< 4; 135 >;< 5; 228
>;<

6; 372 >;< 7; 516 >;< 8; 591 >;< 9; 666 >;< 10; 630 >;<
11; 594 >

;< 12; 297 >];

[< 0; 1 >;< 1; 4 >;< 2; 18 >;< 3; 52 >;< 4; 127 >;< 5; 264
>;<

6; 444 >;< 7; 648 >;< 8; 783 >;< 9; 756 >;< 10; 594 >;<
11; 324 >

;< 12; 81 >];

[< 0; 1 >;< 1; 6 >;< 2; 24 >;< 3; 74 >;< 4; 177 >;< 5; 348
>;<

6; 568 >;< 7; 756 >;< 8; 819 >;< 9; 702 >;< 10; 432 >;<
11; 162 >

;< 12; 27 >];

[< 0; 1 >;< 1; 4 >;< 2; 24 >;< 3; 76 >;< 4; 169 >;< 5; 312
>;<

6; 456 >;< 7; 552 >;< 8; 627 >;< 9; 708 >;< 10; 672 >;<
11; 396 >

;< 12; 99 >];

k1=3

Type IV

[< 0; 1 >;< 2; 18 >;< 4; 123 >;< 6; 588 >;< 8; 1143 >;<

10; 1506 >
 ;< 12; 717 >];
 [< 0; 1 >;< 2; 14 >;< 4; 131 >;< 6; 404 >;< 8; 1431 >;<
 10; 1470 >
 ;< 12; 645 >];
 [< 0; 1 >;< 2; 24 >;< 4; 177 >;< 6; 600 >;< 8; 1107 >;<
 10; 1296 >
 ;< 12; 891 >];
 [< 0; 1 >;< 2; 34 >;< 4; 247 >;< 6; 700 >;< 8; 927 >;< 10;
 1026 >;<
 12; 1161 >];
 [< 0; 1 >;< 2; 18 >;< 4; 135 >;< 6; 540 >;< 8; 1215 >;<
 10; 1458 >
 ;< 12; 729 >]

Non Type IV

[< 0; 1 >;< 2; 6 >;< 3; 32 >;< 4; 63 >;< 5; 96 >;< 6; 148 >
 ;< 7; 288 >;< 8; 639 >;< 9; 1056 >;< 10; 1062 >;< 11;
 576 >;<
 12; 129 >];
 [< 0; 1 >;< 1; 2 >;< 2; 10 >;< 3; 26 >;< 4; 67 >;< 5; 164
 >;<
 6; 316 >;< 7; 548 >;< 8; 775 >;< 9; 858 >;< 10; 762 >;<
 11; 450 >
 ;< 12; 117 >];
 [< 0; 1 >;< 2; 10 >;< 3; 24 >;< 4; 67 >;< 5; 112 >;< 6; 204
 >;<
 7; 352 >;< 8; 599 >;< 9; 912 >;< 10; 938 >;< 11; 648 >;<
 12; 229 >];
 [< 0; 1 >;< 1; 2 >;< 2; 6 >;< 3; 26 >;< 4; 71 >;< 5; 132
 >;<
 6; 244 >;< 7; 516 >;< 8; 879 >;< 9; 1018 >;< 10; 774 >;<

11; 354 >
;< 12; 73 >];
[< 0; 1 >;< 2; 20 >;< 3; 24 >;< 4; 101 >;< 5; 176 >;< 6;
256 >;<
7; 416 >;< 8; 523 >;< 9; 592 >;< 10; 748 >;< 11; 840 >;<
12; 399 >];
[< 0; 1 >;< 1; 6 >;< 2; 24 >;< 3; 74 >;< 4; 177 >;< 5; 348
>;<
6; 568 >;< 7; 756 >;< 8; 819 >;< 9; 702 >;< 10; 432 >;<
11; 162 >
;< 12; 27 >];
[< 0; 1 >;< 2; 16 >;< 3; 32 >;< 4; 89 >;< 5; 160 >;< 6; 232
>;<
7; 352 >;< 8; 515 >;< 9; 736 >;< 10; 904 >;< 11; 768 >;<
12; 291 >];
[< 0; 1 >;< 1; 4 >;< 2; 12 >;< 3; 36 >;< 4; 93 >;< 5; 216
>;<
6; 432 >;< 7; 696 >;< 8; 891 >;< 9; 868 >;< 10; 580 >;<
11; 228 >
;< 12; 39 >];
[< 0; 1 >;< 1; 2 >;< 2; 22 >;< 3; 42 >;< 4; 135 >;< 5; 228
>;<
6; 372 >;< 7; 516 >;< 8; 591 >;< 9; 666 >;< 10; 630 >;<
11; 594 >
;< 12; 297 >];
[< 0; 1 >;< 1; 4 >;< 2; 10 >;< 3; 20 >;< 4; 71 >;< 5; 200
>;<
6; 428 >;< 7; 776 >;< 8; 991 >;< 9; 820 >;< 10; 490 >;<
11; 228 >
;< 12; 57 >];
[< 0; 1 >;< 2; 14 >;< 3; 16 >;< 4; 75 >;< 5; 128 >;< 6; 244
>;<

7; 416 >;< 8; 583 >;< 9; 768 >;< 10; 798 >;< 11; 720 >;< 12; 333 >];

[< 0; 1 >;< 1; 3 >;< 2; 6 >;< 3; 23 >;< 4; 69 >;< 5; 150 >;<

6; 316 >;< 7; 630 >;< 8; 963 >;< 9; 999 >;< 10; 654 >;< 11; 243 >

; < 12; 39 >];

[< 0; 1 >;< 2; 18 >;< 3; 8 >;< 4; 75 >;< 5; 144 >;< 6; 316 >;<

7; 480 >;< 8; 519 >;< 9; 624 >;< 10; 690 >;< 11; 792 >;< 12; 429 >];

[< 0; 1 >;< 1; 2 >;< 2; 16 >;< 3; 30 >;< 4; 105 >;< 5; 180 >;<

6; 360 >;< 7; 540 >;< 8; 675 >;< 9; 810 >;< 10; 648 >;< 11; 486 >

; < 12; 243 >];

[< 0; 1 >;< 1; 2 >;< 2; 12 >;< 3; 38 >;< 4; 85 >;< 5; 180 >;<

6; 320 >;< 7; 492 >;< 8; 699 >;< 9; 874 >;< 10; 820 >;< 11; 462 >

; < 12; 111 >];

[< 0; 1 >;< 1; 1 >;< 2; 6 >;< 3; 29 >;< 4; 65 >;< 5; 114 >;< 6; 204 >;< 7; 402 >;< 8; 747 >;< 9; 1037 >;< 10; 926 >;<

11; 465 >

; < 12; 99 >];

[< 0; 1 >;< 1; 4 >;< 2; 18 >;< 3; 52 >;< 4; 127 >;< 5; 264 >;<

6; 444 >;< 7; 648 >;< 8; 783 >;< 9; 756 >;< 10; 594 >;< 11; 324 >

; < 12; 81 >];

[< 0; 1 >;< 1; 1 >;< 2; 10 >;< 3; 29 >;< 4; 53 >;< 5; 146 >;<

6; 308 >;< 7; 434 >;< 8; 595 >;< 9; 877 >;< 10; 946 >;<
11; 561 >

;< 12; 135 >];

[< 0; 1 >;< 1; 2 >;< 2; 10 >;< 3; 18 >;< 4; 75 >;< 5; 132
>;<

6; 348 >;< 7; 564 >;< 8; 759 >;< 9; 954 >;< 10; 666 >;<
11; 378 >

;< 12; 189 >];

[< 0; 1 >;< 1; 5 >;< 2; 10 >;< 3; 17 >;< 4; 61 >;< 5; 218
>;<

6; 532 >;< 7; 890 >;< 8; 1027 >;< 9; 801 >;< 10; 402 >;<
11; 117 >

;< 12; 15 >];

[< 0; 1 >;< 2; 10 >;< 3; 32 >;< 4; 55 >;< 5; 128 >;< 6; 236
>;<

7; 320 >;< 8; 511 >;< 9; 896 >;< 10; 1066 >;< 11; 672
>;< 12; 169 >

];

k1=4

Type IV

[< 0; 1 >;< 2; 10 >;< 4; 79 >;< 6; 460 >;< 8; 1359 >;< 10;
1674 >;<

12; 513 >];

[< 0; 1 >;< 2; 6 >;< 4; 75 >;< 6; 324 >;< 8; 1575 >;< 10;
1686 >;<

12; 429 >];

[< 0; 1 >;< 2; 12 >;< 4; 93 >;< 6; 480 >;< 8; 1323 >;< 10;
1620 >;<

12; 567 >];

[< 0; 1 >;< 2; 10 >;< 4; 61 >;< 6; 532 >;< 8; 1251 >;< 10;
1746 >;<

12; 495 >];
 [< 0; 1 >;< 2; 6 >;< 4; 69 >;< 6; 348 >;< 8; 1539 >;< 10;
 1710 >;<
 12; 423 >];
 [< 0; 1 >;< 2; 24 >;< 4; 177 >;< 6; 600 >;< 8; 1107 >;<
 10; 1296 >
 ;< 12; 891 >];
 [< 0; 1 >;< 2; 18 >;< 4; 135 >;< 6; 540 >;< 8; 1215 >;<
 10; 1458 >
 ;< 12; 729 >]

Non Type IV

[< 0; 1 >;< 2; 10 >;< 4; 55 >;< 5; 64 >;< 6; 300 >;< 7; 448
 >;<
 8; 575 >;< 9; 960 >;< 10; 746 >;< 11; 576 >;< 12; 361 >];
 [< 0; 1 >;< 1; 2 >;< 2; 6 >;< 3; 10 >;< 4; 55 >;< 5; 132
 >;<
 6; 244 >;< 7; 612 >;< 8; 975 >;< 9; 890 >;< 10; 646 >;<
 11; 402 >
 ;< 12; 121 >];
 [< 0; 1 >;< 2; 2 >;< 3; 16 >;< 4; 35 >;< 5; 64 >;< 6; 140 >
 ;< 7; 352 >;< 8; 743 >;< 9; 1088 >;< 10; 1010 >;< 11;
 528 >;<
 12; 117 >];
 [< 0; 1 >;< 1; 2 >;< 2; 10 >;< 3; 26 >;< 4; 67 >;< 5; 164
 >;<
 6; 316 >;< 7; 548 >;< 8; 775 >;< 9; 858 >;< 10; 762 >;<
 11; 450 >
 ;< 12; 117 >];
 [< 0; 1 >;< 1; 2 >;< 2; 4 >;< 3; 6 >;< 4; 45 >;< 5; 84 >;<
 6; 336 >
 ;< 7; 588 >;< 8; 843 >;< 9; 1098 >;< 10; 684 >;< 11; 270

>;<
 12; 135 >];
 [< 0; 1 >;< 2; 8 >;< 3; 16 >;< 4; 49 >;< 5; 96 >;< 6; 216
 >;<
 7; 384 >;< 8; 627 >;< 9; 928 >;< 10; 928 >;< 11; 624 >;<
 12; 219 >];
 [< 0; 1 >;< 1; 1 >;< 2; 2 >;< 3; 13 >;< 4; 41 >;< 5; 82 >;<
 6; 180 >
 ;< 7; 466 >;< 8; 875 >;< 9; 1069 >;< 10; 858 >;< 11; 417
 >;<
 12; 91 >];
 [< 0; 1 >;< 2; 12 >;< 3; 8 >;< 4; 69 >;< 5; 96 >;< 6; 256
 >;<
 7; 432 >;< 8; 603 >;< 9; 864 >;< 10; 756 >;< 11; 648 >;<
 12; 351 >];
 [< 0; 1 >;< 1; 2 >;< 2; 8 >;< 3; 14 >;< 4; 65 >;< 5; 116 >;<
 6; 344 >;< 7; 572 >;< 8; 787 >;< 9; 1002 >;< 10; 672 >;<
 11; 342 >
 ;< 12; 171 >];
 [< 0; 1 >;< 2; 6 >;< 3; 8 >;< 4; 47 >;< 5; 64 >;< 6; 212
 >;<
 7; 400 >;< 8; 671 >;< 9; 1024 >;< 10; 870 >;< 11; 552
 >;< 12; 241 >
];
 [< 0; 1 >;< 2; 14 >;< 3; 16 >;< 4; 75 >;< 5; 128 >;< 6; 244
 >;<
 7; 416 >;< 8; 583 >;< 9; 768 >;< 10; 798 >;< 11; 720 >;<
 12; 333 >];
 [< 0; 1 >;< 1; 2 >;< 2; 16 >;< 3; 30 >;< 4; 105 >;< 5; 180
 >;<
 6; 360 >;< 7; 540 >;< 8; 675 >;< 9; 810 >;< 10; 648 >;<
 11; 486 >

;< 12; 243 >];
[< 0; 1 >;< 2; 4 >;< 3; 12 >;< 4; 37 >;< 5; 64 >;< 6; 192
>;<
7; 376 >;< 8; 683 >;< 9; 1056 >;< 10; 956 >;< 11; 540
>;< 12; 175 >
];
[< 0; 1 >;< 1; 1 >;< 2; 6 >;< 3; 13 >;< 4; 37 >;< 5; 114 >;<
6; 252 >;< 7; 498 >;< 8; 771 >;< 9; 909 >;< 10; 846 >;<
11; 513 >
;< 12; 135 >];
[< 0; 1 >;< 1; 3 >;< 2; 6 >;< 3; 17 >;< 4; 51 >;< 5; 150
>;<
6; 364 >;< 7; 666 >;< 8; 927 >;< 9; 951 >;< 10; 654 >;<
11; 261 >
;< 12; 45 >];
[< 0; 1 >;< 1; 2 >;< 2; 2 >;< 3; 10 >;< 4; 43 >;< 5; 100
>;<
6; 236 >;< 7; 580 >;< 8; 983 >;< 9; 1050 >;< 10; 722 >;<
11; 306 >
;< 12; 61 >];
[< 0; 1 >;< 1; 4 >;< 2; 18 >;< 3; 52 >;< 4; 127 >;< 5; 264
>;<
6; 444 >;< 7; 648 >;< 8; 783 >;< 9; 756 >;< 10; 594 >;<
11; 324 >
;< 12; 81 >];
[< 0; 1 >;< 2; 6 >;< 3; 16 >;< 4; 27 >;< 5; 96 >;< 6; 228
>;<
7; 384 >;< 8; 615 >;< 9; 928 >;< 10; 1014 >;< 11; 624
>;< 12; 157 >
];
[< 0; 1 >;< 1; 4 >;< 2; 6 >;< 3; 4 >;< 4; 43 >;< 5; 168 >;<
6; 420 >

;< 7; 840 >;< 8; 1095 >;< 9; 852 >;< 10; 438 >;< 11; 180
 >;<
 12; 45 >];
 [< 0; 1 >;< 2; 6 >;< 3; 16 >;< 4; 39 >;< 5; 96 >;< 6; 180
 >;<
 7; 384 >;< 8; 687 >;< 9; 928 >;< 10; 966 >;< 11; 624 >;<
 12; 169 >];
 [< 0; 1 >;< 1; 1 >;< 2; 6 >;< 3; 19 >;< 4; 43 >;< 5; 114 >;<
 6; 252 >;< 7; 462 >;< 8; 735 >;< 9; 957 >;< 10; 894 >;<
 11; 495 >
 ;< 12; 117 >]

k1 = 5

Type IV

[< 0; 1 >;< 2; 10 >;< 4; 79 >;< 6; 460 >;< 8; 1359 >;< 10;
 1674 >;<
 12; 513 >];
 [< 0; 1 >;< 2; 6 >;< 4; 75 >;< 6; 324 >;< 8; 1575 >;< 10;
 1686 >;<
 12; 429 >];
 [< 0; 1 >;< 2; 6 >;< 4; 51 >;< 6; 420 >;< 8; 1431 >;< 10;
 1782 >;<
 12; 405 >] (two codes),
 [< 0; 1 >;< 2; 2 >;< 4; 47 >;< 6; 284 >;< 8; 1647 >;< 10;
 1794 >;<
 12; 321 >];
 [< 0; 1 >;< 2; 18 >;< 4; 135 >;< 6; 540 >;< 8; 1215 >;<
 10; 1458 >
 ;< 12; 729 >],

Non Type IV

[< 0; 1 >;< 1; 2 >;< 2; 4 >;< 3; 6 >;< 4; 45 >;< 5; 84 >;<

6; 336 >
;< 7; 588 >;< 8; 843 >;< 9; 1098 >;< 10; 684 >;< 11; 270
>;<
12; 135 >];
[< 0; 1 >;< 1; 1 >;< 2; 6 >;< 3; 13 >;< 4; 37 >;< 5; 114 >;<
6; 252 >;< 7; 498 >;< 8; 771 >;< 9; 909 >;< 10; 846 >;<
11; 513 >
;< 12; 135 >];
[< 0; 1 >;< 1; 2 >;< 2; 16 >;< 3; 30 >;< 4; 105 >;< 5; 180
>;<
6; 360 >;< 7; 540 >;< 8; 675 >;< 9; 810 >;< 10; 648 >;<
11; 486 >
;< 12; 243 >];
[< 0; 1 >;< 1; 1 >;< 3; 5 >;< 4; 35 >;< 5; 66 >;< 6; 144
>;<
7; 498 >;< 8; 975 >;< 9; 1085 >;< 10; 800 >;< 11; 393
>;< 12; 93 >];
[< 0; 1 >;< 2; 8 >;< 4; 65 >;< 5; 32 >;< 6; 280 >;< 7; 416
>;<
8; 595 >;< 9; 1120 >;< 10; 736 >;< 11; 480 >;< 12; 363
>];
[< 0; 1 >;< 2; 4 >;< 3; 8 >;< 4; 29 >;< 5; 64 >;< 6; 208
>;<
7; 400 >;< 8; 683 >;< 9; 1024 >;< 10; 940 >;< 11; 552
>;< 12; 183 >
];
[< 0; 1 >;< 2; 12 >;< 3; 8 >;< 4; 69 >;< 5; 96 >;< 6; 256
>;<
7; 432 >;< 8; 603 >;< 9; 864 >;< 10; 756 >;< 11; 648 >;<
12; 351 >];
[< 0; 1 >;< 2; 2 >;< 3; 4 >;< 4; 33 >;< 5; 32 >;< 6; 196
>;<

7; 392 >;< 8; 715 >;< 9; 1152 >;< 10; 906 >;< 11; 468
>;< 12; 195 >
];
[< 0; 1 >;< 3; 8 >;< 4; 27 >;< 5; 48 >;< 6; 112 >;< 7; 384
>;<
8; 831 >;< 9; 1104 >;< 10; 960 >;< 11; 504 >;< 12; 117 >]

$k_1 = 6$

[< 0; 1 >;< 2; 18 >;< 4; 135 >;< 6; 540 >;< 8; 1215 >;<
10; 1458 >;< 12; 729 >];
[< 0; 1 >;< 2; 6 >;< 4; 51 >;< 6; 420 >;< 8; 1431 >;< 10;
1782 >;<12; 405 >];
[< 0; 1 >;< 4; 45 >;< 6; 216 >;< 8; 1755 >;< 10; 1800 >;<
12; 279 >]