

Small Optimal Equitable Symbol Weight Codes

An optimal $(3, 2)_2$ -equitable symbol weight code of size 3:

$(0, 1, 1)$ $(1, 0, 1)$ $(1, 1, 0)$

An optimal $(5, 3)_2$ -equitable symbol weight code of size 4:

$(0, 1, 0, 0, 1)$ $(0, 1, 1, 1, 0)$
 $(1, 0, 0, 1, 0)$ $(1, 0, 1, 0, 1)$

An optimal $(7, 4)_2$ -equitable symbol weight code of size 7:

$(0, 0, 0, 1, 1, 1, 1)$ $(0, 1, 1, 0, 0, 1, 1)$
 $(0, 1, 1, 1, 1, 0, 0)$ $(1, 0, 1, 0, 1, 1, 0)$
 $(1, 0, 1, 1, 0, 0, 1)$ $(1, 1, 0, 0, 1, 0, 1)$
 $(1, 1, 0, 1, 0, 1, 0)$

An optimal $(3, 2)_3$ -equitable symbol weight code of size 6:

$(0, 1, 2)$ $(0, 2, 1)$ $(1, 0, 2)$
 $(1, 2, 0)$ $(2, 0, 1)$ $(2, 1, 0)$

An optimal $(4, 3)_3$ -equitable symbol weight code of size 6:

$(1, 0, 2, 1)$ $(1, 1, 0, 2)$ $(1, 2, 1, 0)$
 $(2, 0, 1, 2)$ $(2, 1, 2, 0)$ $(2, 2, 0, 1)$

An optimal $(11, 8)_3$ -equitable symbol weight code of size 11:

$(0, 0, 0, 0, 1, 1, 1, 1, 2, 2, 2)$ $(0, 0, 1, 2, 0, 2, 0, 2, 2, 1, 1)$
 $(0, 0, 2, 1, 2, 0, 2, 0, 1, 2, 1)$ $(0, 2, 1, 2, 2, 1, 2, 1, 0, 0, 0)$
 $(1, 2, 0, 0, 2, 0, 1, 2, 0, 1, 1)$ $(1, 2, 1, 0, 1, 2, 0, 0, 1, 2, 0)$
 $(1, 2, 2, 1, 0, 0, 0, 1, 2, 0, 2)$ $(2, 0, 2, 1, 1, 2, 1, 2, 0, 0, 0)$
 $(2, 1, 0, 0, 0, 2, 2, 1, 1, 0, 1)$ $(2, 1, 0, 1, 2, 1, 0, 0, 2, 1, 0)$
 $(2, 1, 1, 2, 0, 0, 1, 0, 0, 2, 2)$

An optimal $(5, 4)_4$ -equitable symbol weight code of size 12:

$(1, 0, 3, 2, 1)$ $(1, 1, 2, 3, 0)$ $(1, 2, 1, 0, 3)$
 $(1, 3, 0, 1, 2)$ $(2, 0, 1, 3, 2)$ $(2, 1, 0, 2, 3)$
 $(2, 2, 3, 1, 0)$ $(2, 3, 2, 0, 1)$ $(3, 0, 2, 1, 3)$
 $(3, 1, 3, 0, 2)$ $(3, 2, 0, 3, 1)$ $(3, 3, 1, 2, 0)$

An optimal $(7, 6)_5$ -equitable symbol weight code of size 14:

$(0, 0, 1, 1, 2, 3, 4)$ $(0, 1, 4, 2, 3, 4, 3)$
 $(0, 4, 3, 3, 1, 1, 2)$ $(1, 0, 3, 4, 3, 2, 0)$
 $(1, 3, 0, 1, 4, 4, 2)$ $(1, 4, 2, 2, 0, 3, 1)$
 $(2, 0, 4, 3, 4, 0, 1)$ $(2, 2, 0, 4, 1, 3, 3)$
 $(2, 3, 2, 0, 3, 1, 4)$ $(3, 2, 4, 1, 0, 1, 0)$
 $(3, 4, 1, 0, 4, 2, 3)$ $(4, 1, 0, 3, 0, 2, 4)$
 $(4, 2, 3, 0, 2, 4, 1)$ $(4, 3, 1, 2, 1, 0, 0)$

An optimal $(9, 8)_6$ -equitable symbol weight code of size 14:

$(0, 0, 1, 1, 2, 2, 3, 4, 5)$ $(1, 1, 4, 5, 3, 2, 0, 2, 4)$
 $(2, 2, 0, 4, 3, 1, 5, 4, 0)$ $(1, 0, 2, 0, 4, 5, 2, 5, 3)$
 $(4, 3, 4, 2, 1, 5, 3, 1, 0)$ $(4, 4, 1, 0, 0, 3, 5, 2, 2)$
 $(5, 0, 5, 3, 3, 0, 4, 1, 2)$ $(3, 4, 0, 5, 2, 4, 2, 1, 1)$
 $(0, 5, 3, 2, 4, 1, 4, 2, 1)$ $(1, 2, 5, 2, 0, 4, 1, 3, 5)$
 $(5, 1, 3, 4, 1, 3, 2, 0, 5)$ $(4, 5, 0, 3, 5, 2, 1, 0, 3)$
 $(2, 3, 3, 1, 5, 4, 0, 5, 2)$ $(3, 5, 2, 1, 1, 0, 5, 3, 4)$