

Note : la méthode présentée ci-dessous de recherche de décomposants de Goldbach des nombres pairs ne permet pas de trouver comme décomposant de Goldbach de n un nombre premier p inférieur à $\lfloor \sqrt{n} \rfloor$ (on oublie systématiquement les congruences à 0). Par exemple, juste ci-dessous, 3 n'est pas noté comme décomposant de Goldbach de 26 le double de 13 alors qu'il en est un : $26 = 3 + 23$. Le traitement des n doubles de premiers est différencié en rouge.

$$n = 26, n \equiv 2 \pmod{3}, n \equiv 1 \pmod{5}$$

$$sol \equiv 1 \pmod{3}, sol \equiv 2, 3, 4 \pmod{5}$$

$(mod\ 5)$	\times \times \times \times
$(mod\ 3)$	\times \times
	13 7

$$n = 28, n \equiv 1 \pmod{3}, n \equiv 3 \pmod{5}$$

$$sol \equiv 2 \pmod{3}, sol \equiv 1, 2, 4 \pmod{5}$$

$(mod\ 5)$	\times \times \times
$(mod\ 3)$	\times \times
	11

$$n = 30, n \equiv 2 \pmod{3}, n \equiv 1 \pmod{5}$$

$$sol \equiv 1 \pmod{3}, sol \equiv 2, 3, 4 \pmod{5}$$

$(mod\ 5)$	\times \times \times \times \times
$(mod\ 3)$	\times \times \times \times
	13 11 7

$$n = 32, n \equiv 2 \pmod{3}, n \equiv 1 \pmod{5}$$

$$sol \equiv 1 \pmod{3}, sol \equiv 2, 3, 4 \pmod{5}$$

$(mod\ 5)$	\times \times \times \times
$(mod\ 3)$	\times \times
	13

$$n = 34, n \equiv 1 \pmod{3}, n \equiv 4 \pmod{5}$$

$$sol \equiv 2 \pmod{3}, sol \equiv 1, 2, 3 \pmod{5}$$

$(mod\ 5)$	\times \times \times \times \times
$(mod\ 3)$	\times \times \times
	17 11

$$n = 36, n \equiv 2 \pmod{3}, n \equiv 1 \pmod{5}$$

$$sol \equiv 1 \pmod{3}, sol \equiv 2, 3, 4 \pmod{5}$$

$(mod\ 5)$	\times \times \times \times \times
$(mod\ 3)$	\times \times \times \times \times
	17 13 7

$$n = 38, n \equiv 2 \pmod{3}, n \equiv 3 \pmod{5}$$

$$sol \equiv 1 \pmod{3}, sol \equiv 1, 2, 4 \pmod{5}$$

$(mod\ 5)$	\times \times \times \times \times
$(mod\ 3)$	\times \times \times
	19 7

$$n = 40, n \equiv 2 \pmod{3}, n \equiv 1 \pmod{5}$$

$$sol \equiv 1 \pmod{3}, sol \equiv 2, 3, 4 \pmod{5}$$

$(mod\ 5)$	\times \times \times \times \times \times \times
$(mod\ 3)$	\times \times \times
	17 11

$$n = 42, n \equiv 2 \pmod{3}, n \equiv 1 \pmod{5}$$

$$sol \equiv 1 \pmod{3}, sol \equiv 2, 3, 4 \pmod{5}$$

$(mod\ 5)$	\times \times \times \times \times \times
$(mod\ 3)$	\times \times \times \times \times \times
	19 13 11

$$n = 44, n \equiv 2 (3), n \equiv 1 (5)$$

$$sol \equiv 1 (3), sol \equiv 2, 3, 4 (5)$$

$(mod\ 5)$	\times \times \times \times \times
$(mod\ 3)$	\times \times \times
	13 7

$$n = 46, n \equiv 1 (3), n \equiv 1 (5)$$

$$sol \equiv 2 (3), sol \equiv 2, 3, 4 (5)$$

$(mod\ 5)$	\times \times \times \times \times \times
$(mod\ 3)$	\times \times \times
	23 17

$$n = 48, n \equiv 2 (3), n \equiv 1 (5)$$

$$sol \equiv 1 (3), sol \equiv 2, 3, 4 (5)$$

$(mod\ 5)$	\times \times \times \times \times
$(mod\ 3)$	\times \times \times \times \times
	19 17 11 7

$$n = 50, n \equiv 2 (3), n \equiv 1 (5), n \equiv 1 (7)$$

$$sol \equiv 1 (3), sol \equiv 2, 3, 4 (5), sol \equiv 2, 3, 4, 5, 6 (7)$$

$(mod\ 7)$	\times \times \times \times \times \times \times
$(mod\ 5)$	\times \times \times \times \times \times
$(mod\ 3)$	\times \times \times
	19 13

$$n = 52, n \equiv 1 (3), n \equiv 2 (5), n \equiv 3 (7)$$

$$sol \equiv 1 (3), sol \equiv 2, 3, 4 (5), sol \equiv 1, 2, 4, 5, 6 (7)$$

$(mod\ 7)$	\times \times \times \times \times \times
$(mod\ 5)$	\times \times \times \times \times
$(mod\ 3)$	\times \times \times
	23 11

$$n = 54, n \equiv 0 (3), n \equiv 4 (5), n \equiv 5 (7)$$

$$sol \equiv 1, 2 (3), sol \equiv 1, 2, 3 (5), sol \equiv 1, 2, 3, 4, 6 (7)$$

$(mod\ 7)$	\times \times \times \times \times \times \times
$(mod\ 5)$	\times \times \times \times \times \times
$(mod\ 3)$	\times \times \times \times \times \times
	23 17 13 11

$$n = 56, n \equiv 2 (3), n \equiv 1 (5), n \equiv 0 (7)$$

$$sol \equiv 1 (3), sol \equiv 2, 3, 4 (5), sol \equiv 1, 2, 3, 4, 5, 6 (7)$$

$(mod\ 7)$	\times \times \times \times \times \times \times
$(mod\ 5)$	\times \times \times \times \times \times
$(mod\ 3)$	\times \times \times
	19 13

$$n = 58, n \equiv 1 (3), n \equiv 3 (5), n \equiv 2 (7)$$

$$sol \equiv 2 (3), sol \equiv 1, 2, 4 (5), sol \equiv 1, 3, 4, 5, 6 (7)$$

$(mod\ 7)$	\times \times \times \times \times \times \times
$(mod\ 5)$	\times \times \times \times \times
$(mod\ 3)$	\times \times \times
	29 17 11

$n = 60, n \equiv 0 (3), n \equiv 0 (5), n \equiv 4 (7)$

$sol \equiv 1, 2 (3), sol \equiv 1, 2, 3, 4 (5), sol \equiv 1, 2, 4, 5, 6 (7)$

(mod 7)	× × × × × × × × × ×
(mod 5)	× × × × × × × × × ×
(mod 3)	× × × × × × × × × ×
	19 17 13

$n = 62, n \equiv 2 (3), n \equiv 2 (5), n \equiv 6 (7)$

$sol \equiv 1 (3), sol \equiv 1, 3, 4 (5), sol \equiv 1, 2, 3, 4, 5 (7)$

(mod 7)	× × × × × × × × × ×
(mod 5)	× × × × × × × × × ×
(mod 3)	× × × × × × × × × ×
	31 19

$n = 64, n \equiv 1 (3), n \equiv 4 (5), n \equiv 1 (7)$

$sol \equiv 2 (3), sol \equiv 1, 2, 3 (5), sol \equiv 2, 3, 4, 5, 6 (7)$

(mod 7)	× × × × × × × × × ×
(mod 5)	× × × × × × × × × ×
(mod 3)	× × × × × × × × × ×
	23 17 11

$n = 66, n \equiv 0 (3), n \equiv 1 (5), n \equiv 3 (7)$

$sol \equiv 1, 2 (3), sol \equiv 2, 3, 4 (5), sol \equiv 1, 2, 4, 5, 6 (7)$

(mod 7)	× × × × × × × × × ×
(mod 5)	× × × × × × × × × ×
(mod 3)	× × × × × × × × × ×
	29 23 19 13

$n = 68, n \equiv 2 (3), n \equiv 3 (5), n \equiv 5 (7)$

$sol \equiv 1 (3), sol \equiv 1, 2, 4 (5), sol \equiv 1, 2, 3, 4, 6 (7)$

(mod 7)	× × × × × × × × × ×
(mod 5)	× × × × × × × × × ×
(mod 3)	× × × × × × × × × ×
	31

$n = 70, n \equiv 1 (3), n \equiv 0 (5), n \equiv 0 (7)$

$sol \equiv 2 (3), sol \equiv 1, 2, 3, 4 (5), sol \equiv 1, 2, 3, 4, 5, 6 (7)$

(mod 7)	× × × × × × × × × ×
(mod 5)	× × × × × × × × × ×
(mod 3)	× × × × × × × × × ×
	29 23 17 11

$n = 72, n \equiv 0 (3), n \equiv 2 (5), n \equiv 2 (7)$

$sol \equiv 1, 2 (3), sol \equiv 1, 3, 4 (5), sol \equiv 1, 3, 4, 5, 6 (7)$

(mod 7)	× × × × × × × × × ×
(mod 5)	× × × × × × × × × ×
(mod 3)	× × × × × × × × × ×
	31 29 19 13 11

$$n = 74, n \equiv 2 (3), n \equiv 4 (5), n \equiv 4 (7)$$

$$sol \equiv 1 (3), sol \equiv 1, 2, 3 (5), sol \equiv 1, 2, 3, 5, 6 (7)$$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×
	37		31							13		

$$n = 76, n \equiv 1 (3), n \equiv 1 (5), n \equiv 6 (7)$$

$$sol \equiv 2 (3), sol \equiv 2, 3, 4 (5), sol \equiv 1, 2, 3, 4, 5 (7)$$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×
			29		23		17					

$$n = 78, n \equiv 0 (3), n \equiv 3 (5), n \equiv 1 (7)$$

$$sol \equiv 1, 2 (3), sol \equiv 1, 2, 4 (5), sol \equiv 2, 3, 4, 5, 6 (7)$$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×
	37		31			19	17			11		

$$n = 80, n \equiv 2 (3), n \equiv 0 (5), n \equiv 3 (7)$$

$$sol \equiv 1 (3), sol \equiv 1, 2, 3, 4 (5), sol \equiv 1, 2, 4, 5, 6 (7)$$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×
	37					19		13				

$$n = 82, n \equiv 1 (3), n \equiv 2 (5), n \equiv 5 (7)$$

$$sol \equiv 2 (3), sol \equiv 1, 3, 4 (5), sol \equiv 1, 2, 3, 4, 6 (7)$$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×
	41			29		23				11		

$$n = 84, n \equiv 0 (3), n \equiv 4 (5), n \equiv 0 (7)$$

$$sol \equiv 1, 2 (3), sol \equiv 1, 2, 3 (5), sol \equiv 1, 2, 3, 4, 5, 6 (7)$$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×
	41	37		31		23		17		13	11	

$$n = 86, n \equiv 2 (3), n \equiv 4 (5), n \equiv 2 (7)$$

$$sol \equiv 1 (3), sol \equiv 1, 2, 3 (5), sol \equiv 1, 3, 4, 5, 6 (7)$$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×
	43							19		13		

$n = 88, n \equiv 1 (3), n \equiv 3 (5), n \equiv 4 (7)$

$sol \equiv 2 (3), sol \equiv 1, 2, 4 (5), sol \equiv 1, 2, 3, 5, 6 (7)$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
	41				29				17					

$n = 90, n \equiv 0 (3), n \equiv 0 (5), n \equiv 6 (7)$

$sol \equiv 1, 2 (3), sol \equiv 1, 2, 3, 4 (5), sol \equiv 1, 2, 3, 4, 5 (7)$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
	43			37		31 29		23		19 17		11		

$n = 92, n \equiv 2 (3), n \equiv 2 (5), n \equiv 1 (7)$

$sol \equiv 1 (3), sol \equiv 1, 3, 4 (5), sol \equiv 2, 3, 4, 5, 6 (7)$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
	31				19				13					

$n = 94, n \equiv 1 (3), n \equiv 4 (5), n \equiv 3 (7)$

$sol \equiv 2 (3), sol \equiv 1, 2, 3 (5), sol \equiv 1, 2, 4, 5, 6 (7)$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
	47		41		23				11					

$n = 96, n \equiv 0 (3), n \equiv 1 (5), n \equiv 5 (7)$

$sol \equiv 1, 2 (3), sol \equiv 2, 3, 4 (5), sol \equiv 1, 2, 3, 4, 6 (7)$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
	43		37		29		23		17		13			

$n = 98, n \equiv 2 (3), n \equiv 3 (5), n \equiv 0 (7)$

$sol \equiv 1 (3), sol \equiv 1, 2, 4 (5), sol \equiv 1, 2, 3, 4, 5, 6 (7)$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
	37			31			19							

$n = 100, n \equiv 1 (3), n \equiv 0 (5), n \equiv 2 (7)$

$sol \equiv 2 (3), sol \equiv 1, 2, 3, 4 (5), sol \equiv 1, 3, 4, 5, 6 (7)$

(mod 7)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 5)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(mod 3)	×	×	×	×	×	×	×	×	×	×	×	×	×	×
	47		41		29				17		11			