

Wolfdieter Lang,

a(n,k) tabf head (staircase) for A115131 (Waring numbers: power sums symmetric functions from elementary symmetric ones.)

partitions of n listed in Abramowitz-Stegun order p. 831-2 (see the main page for the ref.)

n\k	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	...
1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	-2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	3	-3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	-4	4	2	-4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	5	-5	-5	5	5	-5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	-6	6	6	3	-6	-12	-2	6	9	-6	1	0	0	0	0	0	0	0	0	0	0	0	0
7	7	-7	-7	-7	7	14	7	7	-7	-21	-7	7	14	-7	1	0	0	0	0	0	0	0	0
8	-8	8	8	8	4	-8	-16	-16	-8	-8	8	24	12	24	2	-8	-32	-16	8	20	-8	1	
:																							
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:																							
n\k	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	...

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As row sequences for n=1..10:

1. [1],
2. [-2, 1]
3. [3, -3, 1]
4. [-4, 4, 2, -4, 1]
5. [5, -5, -5, 5, 5, -5, 1]
6. [-6, 6, 6, 3, -6, -12, -2, 6, 9, -6, 1]
7. [7, -7, -7, -7, 7, 14, 7, 7, -7, -21, -7, 7, 14, -7, 1]
8. [-8, 8, 8, 8, 4, -8, -16, -16, -8, -8, 8, 24, 12, 24, 2, -8, -32, -16, 8, 20, -8, 1]
9. [9, -9, -9, -9, -9, 9, 18, 18, 9, 9, 18, 3, -9, -27, -27, -27, -27, -9, 9, 36, 18, 54, 9, -9, -45, -30, 9, 27, -9, 1]
10. [-10, 10, 10, 10, 10, 5, -10, -20, -20, -20, -10, -20, -10, -10, 10, 30, 30, 15, 30, 60, 10, 10, 15, -10, -40, -40, -60, -60, -40, -2, 10, 50, 25, 100, 25, -10, -60, -50, 10, 35, -10, 1]

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The row sums give  $(-1)^{(n-1)}$ ;

The unsigned row sums give  $2^{n-1} = A000225(n)$ .

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