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A036039 tabf array: M_2 numbers of Abramowitz and Stegun p.831.
Partitions of n listed in Abramowitz-Stegun order p. 831-2 (see the main page for the reference).

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
2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	6	8	3	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	24	30	20	20	15	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	120	144	90	40	90	120	15	40	45	15	1	0	0	0	0	0	0	0	0	0	0	0
7	720	840	504	420	504	630	280	210	210	420	105	70	105	21	1	0	0	0	0	0	0	0
8	5040	5760	3360	2688	1260	3360	4032	3360	1260	1120	1344	2520	1120	1680	105	420	1120	420	112	210	28	1
.																						
.																						
.																						
n\k	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22 ...

The next two rows, for n=9 and 10 are:

n=9: [40320, 45360, 25920, 20160, 18144, 25920, 30240, 24192, 11340, 9072, 15120, 2240,
10080, 18144, 15120, 11340, 10080, 2520, 3024, 7560, 3360, 7560, 945, 756, 2520, 1260,
168, 378, 36, 1]

n=10: [362880, 403200, 226800, 172800, 151200, 72576, 226800, 259200, 201600, 181440,
75600, 120960, 56700, 50400, 86400, 151200, 120960, 56700, 90720, 151200, 22400, 18900,
25200, 25200, 60480, 50400, 56700, 50400, 25200, 945, 6048, 18900, 8400, 25200, 4725,
1260, 5040, 3150, 240, 630, 45, 1]

The row sums give A000142 (factorials): [1, 1, 2, 6, 24, 120, 720, 5040, 40320, 362880, 3628800,...]

The row polynomials are (A-St order):

n=1: x[1]

n=2: x[2] + x[1]^2

n=3: 2*x[3]+3*x[1]*x[2]+x[1]^3

n=4: 6*x[4]+8*x[1]*x[3]+3*x[2]^2+6*x[1]^2*x[2]+x[1]^4

n=5: 24*x[5]+30*x[1]*x[4]+20*x[2]*x[3]+20*x[1]^2*x[3]+15*x[1]*x[2]^2+10*x[1]^3*x[2]+x[1]^5

n=6: 120*x[6]+144*x[1]*x[5]+90*x[2]*x[4]+40*x[3]^2+90*x[1]^2*x[4]+120*x[1]*x[2]*x[3]+15*x[2]^3 +
+40*x[1]^3*x[3]+45*x[1]^2*x[2]^2+15*x[1]^4*x[2]+x[1]^6

n=7: 720*x[7]+840*x[1]*x[6]+504*x[2]*x[5]+420*x[3]*x[4]+504*x[1]^2*x[5]+630*x[1]*x[2]*x[4]+
+280*x[1]*x[3]^2+210*x[2]^2*x[3]+210*x[1]^3*x[4]+420*x[1]^2*x[2]*x[3]+105*x[1]*x[2]^3+
+70*x[1]^4*x[3]+105*x[1]^3*x[2]^2+21*x[1]^5*x[2]+x[1]^7

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n=8:  5040*x[8]+5760*x[1]*x[7]+3360*x[2]*x[6]+2688*x[3]*x[5]+1260*x[4]^2+3360*x[1]^2*x[6]+
      + 4032*x[1]*x[2]*x[5]+3360*x[1]*x[3]*x[4]+1260*x[2]^2*x[4]+1120*x[2]*x[3]^2+
      + 1344*x[1]^3*x[5]+2520*x[1]^2*x[2]*x[4]+1120*x[1]^2*x[3]^2+1680*x[1]*x[2]^2*x[3]+
      +105*x[2]^4+420*x[1]^4*x[4]+1120*x[1]^3*x[2]*x[3]+420*x[1]^2*x[2]^3+112*x[1]^5*x[3]+
      +210*x[1]^4*x[2]^2+28*x[1]^6*x[2]+x[1]^8

n=9:  40320*x[9] + 45360*x[1]*x[8] + 25920*x[2]*x[7] + 20160*x[3]*x[6] + 18144*x[4]*x[5]+
      + 25920*x[1]^2*x[7] + 30240*x[1]*x[2]*x[6] +  24192*x[1]*x[3]*x[5] + 11340*x[1]*x[4]^2 +
      + 9072*x[2]^2*x[5] + 15120*x[2]*x[3]*x[4] + 2240*x[3]^3 + 10080*x[1]^3*x[6] + 18144*x[1]^2*x[2]*x[5]+
      + 15120*x[1]^2*x[3]*x[4] + 11340*x[1]*x[2]^2*x[4] + 10080*x[1]*x[2]*x[3]^2 + 2520*x[2]^3*x[3] +
      + 3024*x[1]^4*x[5] + 7560*x[1]^3*x[2]*x[4] + 3360*x[1]^3*x[3]^2 + 7560*x[1]^2*x[2]^2*x[3] +
      + 945*x[1]*x[2]^4 + 756*x[1]^5*x[4] + 2520*x[1]^4*x[2]*x[3] + 1260*x[1]^3*x[2]^3 + 168*x[1]^6*x[3] +
      + 378*x[1]^5*x[2]^2 + 36*x[1]^7*x[2] + x[1]^9

n=10:  362880*x[10] + 403200*x[1]*x[9] + 226800*x[2]*x[8] + 172800*x[3]*x[7] + 151200*x[4]*x[6] +
       + 72576*x[5]^2 + 226800*x[1]^2*x[8] + 259200*x[1]*x[2]*x[7] + 201600*x[1]*x[3]*x[6] +
       + 181440*x[1]*x[4]*x[5] + 75600*x[2]^2*x[6] + 120960*x[2]*x[3]*x[5] + 56700*x[2]*x[4]^2 +
       + 50400*x[3]^2*x[4] + 86400*x[1]^3*x[7] + 151200*x[1]^2*x[2]*x[6] + 120960*x[1]^2*x[3]*x[5] +
       + 56700*x[1]^2*x[4]^2 + 90720*x[1]*x[2]^2*x[5]+ 151200*x[1]*x[2]*x[3]*x[4] + 22400*x[1]*x[3]^3 +
       +  18900*x[2]^3*x[4] + 25200*x[2]^2*x[3]^2 + 25200*x[1]^4*x[6] + 60480*x[1]^3*x[2]*x[5] +
       + 50400*x[1]^3*x[3]*x[4] + 56700*x[1]^2*x[2]^2*x[4] + 50400*x[1]^2*x[2]*x[3]^2 +
       + 25200*x[1]*x[2]^3*x[3] + 945*x[2]^5 + 6048*x[1]^5*x[5] + 18900*x[1]^4*x[2]*x[4]+
       + 8400*x[1]^4*x[3]^2 + 25200*x[1]^3*x[2]^2*x[3] + 4725*x[1]^2*x[2]^4 + 1260*x[1]^6*x[4]+
       + 5040*x[1]^5*x[2]*x[3] + 3150*x[1]^4*x[2]^3 + 240*x[1]^7*x[3] + 630*x[1]^6*x[2]^2+
       + 45*x[1]^8*x[2] + x[1]^10


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