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A036040 tabf array: M_3 numbers of Abramowitz and Stegun.
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	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	1	4	3	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1	5	10	10	15	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	1	6	15	10	15	60	15	20	45	15	1	0	0	0	0	0	0	0	0	0	0	0
7	1	7	21	35	21	105	70	105	35	210	105	35	105	21	1	0	0	0	0	0	0	0
8	1	8	28	56	35	28	168	280	210	280	56	420	280	840	105	70	560	420	56	210	28	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 ...

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

[1, 9, 36, 84, 126, 36, 252, 504, 315, 378, 1260, 280, 84, 756, 1260, 1890, 2520, 1260, 126, 1260,
840, 3780, 945, 126, 1260, 1260, 84, 378, 36, 1]

[1, 10, 45, 120, 210, 126, 45, 360, 840, 1260, 630, 2520, 1575, 2100, 120, 1260, 2520, 1575, 3780,
12600, 2800, 3150, 6300, 210, 2520, 4200, 9450, 12600, 12600, 945, 252, 3150, 2100, 12600, 4725,
210, 2520, 3150, 120, 630, 45, 1]

##

A(t) = exp(x[k]*(t^k)/k! ,k=1..infinity) is the exponential generating function (e.g.f.) of the

n-variate polynomials P3_n(x[1],...,x[n]) with p(n):=A000041(n)(partition numbers) terms.

These polynomials are, for n=1,...,10:

n=1: 1*x[1]

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

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

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

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

n=6: 1*x[6] +6*x[1]*x[5] +15*x[2]*x[4] +10*x[3]^2 +15*x[1]^2*x[4] +60*x[1]*x[2]*x[3] +15*x[2]^3
+20*x[1]^3*x[3] +45*x[1]^2*x[2]^2 +15*x[1]^4*x[4] +1*x[1]^6

n=7: 1*x[7] +7*x[1]*x[6] +21*x[2]*x[5] +35*x[3]*x[4] +21*x[1]^2*x[5] +105*x[1]*x[2]*x[4]
+70*x[1]*x[3]^2 +105*x[2]^2*x[3] +35*x[1]^3*x[4] +210*x[1]^2*x[2]*x[3] +105*x[1]*x[2]^3
+35*x[1]^4*x[3] +105*x[1]^3*x[2]^2 +21*x[1]^5*x[2] +1*x[1]^7

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n=8: 1*x[8] +8*x[1]*x[7]  +28*x[2]*x[6]  +56*x[3]*x[5] +35*x[4]^2 +28*x[1]^2*x[6] +168*x[1]*x[2]*x[5]
     +280*x[1]*x[3]*x[4] +210*x[2]^2*x[4] +280*x[2]*x[3]^2] +56*x[1]^3*x[5] +420*x[1]^2*x[2]*x[4]
     +280*x[1]^2*x[3]^2 +840*x[1]*x[2]^2*x[3] +105*x[2]^4 +70*x[1]^4*x[4] +560*x[1]^3*x[2]*x[3]
     +420*x[1]^2*x[2]^3 +56*]^5*x[3] +210*x[1]^4*x[2]^2 +28*x[1]^6*x[2] +1*x[1]^8

n=9: 1*x[9]
     +9*x[1]*x[8] +36*x[2]*x[7] +84*x[3]*x[6] +126*x[4]*x[5]
     +36*x[1]^2*x[7] +252*x[1]*x[2]*x[6] +504*x[1]*x[3]*x[5] +315*x[1]*x[4]^2 +378*x[2]^2*x[5]
     +1260*x[2]*x[3]*x[4] +280*x[3]^3
     +84*x[1]^3*x[6] +756*x[1]^2*x[2]*x[5] +1260*x[1]^2*x[3]*x[4] +1890*x[1]*x[2]^2*x[4]
     +2520*x[1]*x[2]*x[3]^2+1260*x[2]^3*x[3]
     +126*x[1]^4*x[5] +1260*x[1]^3*x[2]*x[4] +840*x[1]^3*x[3]^2 +3780*x[1]^2*x[2]^2*x[3]
     +945*x[1]*x[2]^4
     +126*x[1]^5*x[4] +1260*x[1]^4*x[2]*x[3] +1260*x[1]^3*x[2]^3]
     +84*x[1]^6*x[3] +378*x[1]^5*x[2]^2
     +36*x[1]^7*x[2]
     +1*x[1]^9

n=10: 1*x[10]
      +10*x[1]*x[9] +45*x[2]*x[8] +120*x[3]*x[7] +210*x[4]*x[6] +126*x[5]^2
      +45*x[1]^2*x[8] +360*x[1]*x[2]*x[7] +840*x[1]*x[3]*x[6] +1260*x[1]*x[4]*x[5]
      +630*x[2]^2*x[6] +2520*x[2]*x[3]*x[5] +1575*x[2]*x[4]^2 +2100*x[3]^2*x[4]
      +120*x[1]^3*x[7] +1260*x[1]^2*x[2]*x[6] +2520*x[1]^2*x[3]*x[5] +1575*x[1]^2*x[4]^2
      +3780*x[1]*x[2]^2*x[5] +12600*x[1]*x[2]*x[3]*x[4] +2800*x[1]*x[3]^3 +3150*x[2]^3*x[4]
      +6300*x[2]^2*x[3]^2
      +210*x[1]^4*x[6] +2520*x[1]^3*x[2]*x[5] +4200*x[1]^3*x[3]*x[4] +9450*x[1]^2*x[2]^2*x[4]
      +12600*x[1]^2*x[2]*x[3]^2 +12600*x[1]*x[2]^3*x[3] +945*x[2]^5
      +252*x[1]^5*x[5] +3150*x[1]^4*x[2]*x[4] +2100*x[1]^4*x[3]^2 +12600*x[1]^3*x[2]^2*x[3]
      +4725*x[1]^2*x[2]^4
      +210*x[1]^6*x[4] +2520*x[1]^5*x[2]*x[3] +3150*x[1]^4*x[2]^3
      +120*x[1]^7*x[3] +630*x[1]^6*x[2]^2
      +45*x[1]^8*x[2]
      +1*x[1]^10

################################################## e.o.f. ##############################################
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