

A127672: Table of coefficients of Chebyshev T-polynomials with scaled argument.  
 Increasing powers of y, with zeros.  
 These are the monic Chebyshev T-polynomials ( with 2 for n=0, not 1).

a(n,m) tabl head (triangle) for A127672.

Scaled coefficient triangle for Chebyshev's T(n,x) (increasing scaled powers).

$$T(n,x) = \sum(a(n,m) \cdot (2^{m-1}) \cdot x^m, m=0..n).$$

The row polynomials are  $R(n,x) = \sum(a(n,m) \cdot x^m, m=0..n) = 2 \cdot T(n,x/2), n \geq 0$ .

| n \ m | 0  | 1   | 2   | 3   | 4    | 5    | 6    | 7    | 8    | 9    | 10  | 11  | 12  | 13  | 14 | 15 | ... |
|-------|----|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|-----|----|----|-----|
| 0     | 2  | 0   | 0   | 0   | 0    | 0    | 0    | 0    | 0    | 0    | 0   | 0   | 0   | 0   | 0  | 0  |     |
| 1     | 0  | 1   | 0   | 0   | 0    | 0    | 0    | 0    | 0    | 0    | 0   | 0   | 0   | 0   | 0  | 0  |     |
| 2     | -2 | 0   | 1   | 0   | 0    | 0    | 0    | 0    | 0    | 0    | 0   | 0   | 0   | 0   | 0  | 0  |     |
| 3     | 0  | -3  | 0   | 1   | 0    | 0    | 0    | 0    | 0    | 0    | 0   | 0   | 0   | 0   | 0  | 0  |     |
| 4     | 2  | 0   | -4  | 0   | 1    | 0    | 0    | 0    | 0    | 0    | 0   | 0   | 0   | 0   | 0  | 0  |     |
| 5     | 0  | 5   | 0   | -5  | 0    | 1    | 0    | 0    | 0    | 0    | 0   | 0   | 0   | 0   | 0  | 0  |     |
| 6     | -2 | 0   | 9   | 0   | -6   | 0    | 1    | 0    | 0    | 0    | 0   | 0   | 0   | 0   | 0  | 0  |     |
| 7     | 0  | -7  | 0   | 14  | 0    | -7   | 0    | 1    | 0    | 0    | 0   | 0   | 0   | 0   | 0  | 0  |     |
| 8     | 2  | 0   | -16 | 0   | 20   | 0    | -8   | 0    | 1    | 0    | 0   | 0   | 0   | 0   | 0  | 0  |     |
| 9     | 0  | 9   | 0   | -30 | 0    | 27   | 0    | -9   | 0    | 1    | 0   | 0   | 0   | 0   | 0  | 0  |     |
| 10    | -2 | 0   | 25  | 0   | -50  | 0    | 35   | 0    | -10  | 0    | 1   | 0   | 0   | 0   | 0  | 0  |     |
| 11    | 0  | -11 | 0   | 55  | 0    | -77  | 0    | 44   | 0    | -11  | 0   | 1   | 0   | 0   | 0  | 0  |     |
| 12    | 2  | 0   | -36 | 0   | 105  | 0    | -112 | 0    | 54   | 0    | -12 | 0   | 1   | 0   | 0  | 0  |     |
| 13    | 0  | 13  | 0   | -91 | 0    | 182  | 0    | -156 | 0    | 65   | 0   | -13 | 0   | 1   | 0  | 0  |     |
| 14    | -2 | 0   | 49  | 0   | -196 | 0    | 294  | 0    | -210 | 0    | 77  | 0   | -14 | 0   | 1  | 0  |     |
| 15    | 0  | -15 | 0   | 140 | 0    | -378 | 0    | 450  | 0    | -275 | 0   | 90  | 0   | -15 | 0  | 1  |     |
| .     |    |     |     |     |      |      |      |      |      |      |     |     |     |     |    |    |     |
| .     |    |     |     |     |      |      |      |      |      |      |     |     |     |     |    |    |     |
| .     |    |     |     |     |      |      |      |      |      |      |     |     |     |     |    |    |     |

Row sums (signed): [2, 1, -1, -2, -1, 1, 2, 1, -1, -2, -1, 1, 2, 1, -1, -2, ...]= A057079(n-1).

Row sums (unsigned): [2, 1, 3, 4, 7, 11, 18, 29, 47, 76, 123, 199, 322, 521, ...]= A000032(n) (Lucas numbers).

Bisection: Triangle of even numbered rows (without zeros): A127677.  
 Unsigned triangle of odd numbered rows (without zeros): A111125.

The polynomials  $R(n,x)$  are, for  $n=0..15$ :

n=0: 2  
n=1: x  
n=2:  $-2+x^2$   
n=3:  $-3*x+x^3$   
n=4:  $2-4*x^2+x^4$   
n=5:  $5*x-5*x^3+x^5$   
n=6:  $-2+9*x^2-6*x^4+x^6$   
n=7:  $-7*x+14*x^3-7*x^5+x^7$   
n=8:  $2-16*x^2+20*x^4-8*x^6+x^8$   
n=9:  $9*x-30*x^3+27*x^5-9*x^7+x^9$   
n=10:  $-2+25*x^2-50*x^4+35*x^6-10*x^8+x^{10}$   
n=11:  $-11*x+55*x^3-77*x^5+44*x^7-11*x^9+x^{11}$   
n=12:  $2-36*x^2+105*x^4-112*x^6+54*x^8-12*x^{10}+x^{12}$   
n=13:  $13*x-91*x^3+182*x^5-156*x^7+65*x^9-13*x^{11}+x^{13}$   
n=14:  $-2+49*x^2-196*x^4+294*x^6-210*x^8+77*x^{10}-14*x^{12}+x^{14}$   
n=15:  $-15*x+140*x^3-378*x^5+450*x^7-275*x^9+90*x^{11}-15*x^{13}+x^{15}$   
etc.

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