ALGORITHM 36
TCHEBYCHEFF
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procedure tchebycheff (t, x, m, ℓ);
real array t, x; integer ℓ, m;
comment given a set of m+1 values of x stored in a one-
dimensional array whose subscripts run from 0
thru m at least, construct a table of t(x), n =
0, 1, ⋯ , ℓ and store it in the two-dimensional
array t, where you find t(x(m)) as t[n, m] ;
begin integer i, k, n ;
for k := 0 step 1 until m do begin t[0, k] := 1 ;
t[1, k] := x[k] end ;
for n := 2 step 1 until ℓ do for i = 0 step 1
until m do
t[n, i] := 2 × x[i] × t[n − 1, i] − t[n − 2, i]
end tcheby