12. Evaluation of the Laguerre Polynomial $L_n(X)$ by Recursion

G. M. Galler
National Bureau of Standards, Washington 25 D. C.

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comment         This procedure computes the Laguerre polynomial
                L_n(X) = e^X × (d^n/dX^n(X^n × e^-X)) for any
                given real argument, X, and any order, n, by
                the recursion formula below;
real procedure  La(n, X) ;
integer         n ; real X ;
begin real      a, b, c ; integer i ;
                a := 1 ; b := 1 − X ;
                if n = 0 then c := a else if n = 1 then
                c := b else for i = 1 step 1 until n−1 do
              begin c := (1 + 2 × i − X) × b − (i ↑ 2) × a ;
                    a := b ; b := c
                end
                La := c
                end
```