$$f(x,n)=\sum_{i=1}^{k}f(x-i,n-1) \tag{1}$$

$$f(x-1,n)=\sum_{i=1}^{k}f(x-1-i,n-1) \tag{2}$$

由（1) - (2) 得

$$f(x,n)=f(x-1,n-1)+f(x-1,n)-f(x-1-k,n-1) \tag{3}$$

由（3）得到

$$f(x-1,n)=f(x,n)+f(x-1-k,n-1)-f(x-1,n) \tag{4}$$

$$f(x,n)=f(x+1,n)+f(x-k,n-1)-f(x,n) \tag{5}$$