

Proof. By (4), (6) and (1) we have

$$\begin{aligned} \sum_{j=1}^k T_{k,j} L(j+n, p, q) &= \sum_{j=1}^k T_{k,j} \sum_{i=1}^q \prod_{i=1}^q \varrho_i^{\alpha_j} \sum_{h=0}^q c_h (p-h)^{j+n} \\ &= \sum_{i=1}^q \prod_{i=1}^q \varrho_i^{\alpha_j} \sum_{h=0}^q c_h (p-h)^n \sum_{j=1}^k T_{k,j} (p-h)^j = \sum_{i=1}^q \prod_{i=1}^q \varrho_i^{\alpha_j} \sum_{h=0}^q c_h (p-h)^n f(p-h). \end{aligned}$$

By definition $p-h$ is an integer satisfying $1 \leq p-h \leq p \leq k-1$ and consequently by (1), $f(p-h) = 0$ which proves the theorem.

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[Continued from Page 48.]

- Much more recently (1973), Jacobczyk [6] has given new iterative procedures for determining answers to both:
- (a) for each k , $1 \leq k \leq N$, which will be the k^{th} place to be cast out?
 - (b) for each k , $1 \leq k \leq N$, when will the k^{th} place be cast out?

(The "Oberreihen" methods described by Ahrens also provide answers to both questions.)

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