



Fig. 12.5 Order of calculations for Romberg Integration

Elements in the first column represent trapezoidal rule at h , $h/2$, $h/4$, etc. They can be evaluated recursively as follows:

$$h = b - a$$

$$R(0, 0) = \frac{h}{2} [f(a) + f(b)]$$

$$R(i, 0) = \frac{R(i-1, 0)}{2} + h_i \sum_{k=1}^{2^{i-1}} f(x_{2k-1}) \quad \text{for } i = 1, 2, \dots$$

(12.27)