

Estimates of the form

$$\|e\|_\infty \leq \frac{h^{n+1}}{(n+1)!} \|f^{(n+1)}\|_\infty$$

h = b-a
↙

are very common and one introduces a special notation known as the Big-O or Big-oh notation.

One writes

$$\|e\| = O(h^r)$$

some norm
↙

if there are positive constants C and r , independent of h , such that

$$\|e\| \leq C \cdot h^r$$

for h small enough. In the present context, r is called the order of accuracy.

Ex.: (4) $\|e\|_\infty \leq \frac{h^{n+1}}{(n+1)!} \|f^{(n+1)}\|_\infty = O(h^{n+1})$

constants independent of h !

no slides