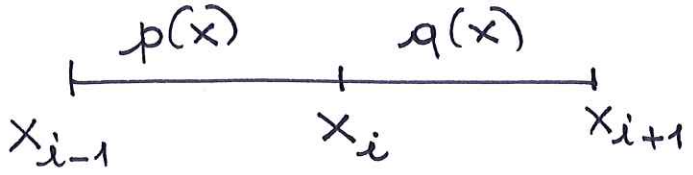
Condizione not-a-Knot. SPLINE QUADRATICA



$p, q \in \mathbb{P}_2$

$p(x) = ax^2 + bx + c$; $p'(x) = 2ax + b$; $p''(x) = 2a$

$q(x) = dx^2 + ex + f$; $q'(x) = 2dx + e$; $q''(x) = 2d$

Spline quadratica

$p(x_i) = q(x_i)$ (1)

$p'(x_i) = q'(x_i)$ (2)

Condizione aggiuntive (nodo x_1 o x_{n-1})

$p''(x_i) = q''(x_i)$ (3)

$$\begin{cases} ax_i^2 + bx_i + c = dx_i^2 + ex_i + f & (1) \\ 2ax_i + b = 2dx_i + e & (2) \\ 2a = 2d & (3) \end{cases}$$

(3): $a = d$ $\quad a = d$

(2): $2ax_i + b = 2dx_i + e$ $\quad b = e$

(1): $ax_i^2 + bx_i + c = dx_i^2 + ex_i + f$ $\quad c = f$

$\Rightarrow \quad p(x) = q(x)$