

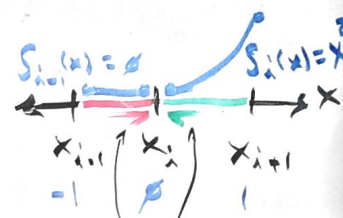
# SPLINES

LET  $a = x_0 < x_1 < x_2 < \dots < x_{n-1} < x_n = b$

$$\lim_{x \rightarrow x_i^-} S_{i-1}^{(m-1)}(x) \stackrel{?}{=} \lim_{x \rightarrow x_i^+} S_i^{(m+1)}(x)$$

$$S(x) = \begin{cases} x^2 & -1 \leq x \leq 0 \\ x^2 & 0 \leq x \leq 1 \end{cases}$$

$m=2$

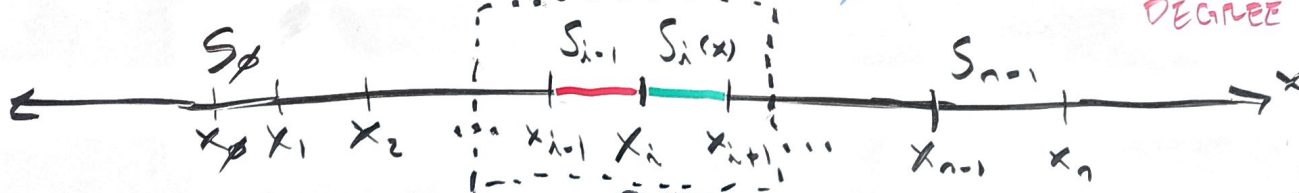


AS VALUES APPROACH THIS POINT, THEY MUST CONVERGE (?) TO AN IDENTICAL VALUE

$$\lim_{x \rightarrow x_i^-} S_{i-1}^{(m-1)} = \lim_{x \rightarrow x_i^-} [0] = \lim_{x \rightarrow 0^-} 0 = 0$$

$$\lim_{x \rightarrow x_i^+} S_i^{(m+1)} = \lim_{x \rightarrow x_i^+} [x^2] = \lim_{x \rightarrow 0^+} x^2 = 0$$

$S(x)$  IS A SPLINE OF DEGREE  $m=2$



2 EXAMS  
SOLVED WITH 388 EXH  
VLEBY MCC HAS EXH