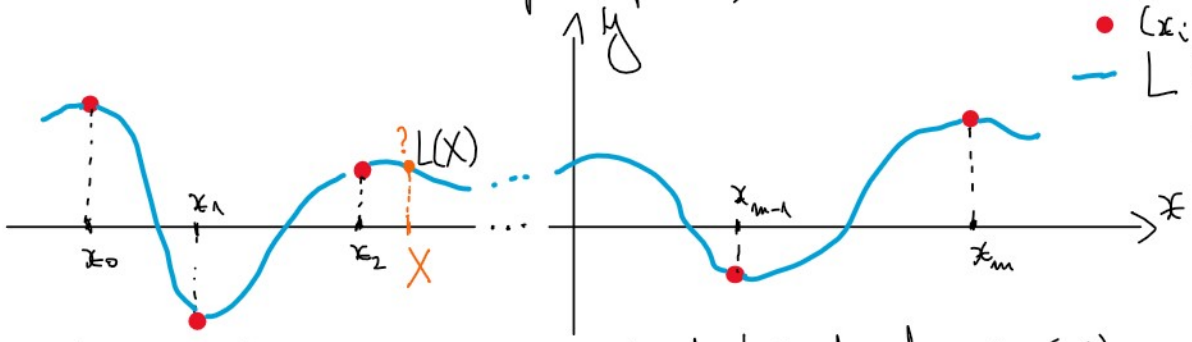
Lab 6

Wednesday, April 5, 2023 12:03 PM

Interpolare Lagrange

("there prim pte")



(x_i, f_i)

L = pol. Lagrange = pol. de gr. min. care interp.

Input:
- nodes: $x_0, \dots, x_m$ → distincte
- values: $f_0, \dots, f_m$
- X

Output: L(X)

$$L(x_i) = f_i,\ i = 0, \dots, m \quad (*) \rightarrow \text{interp.}$$

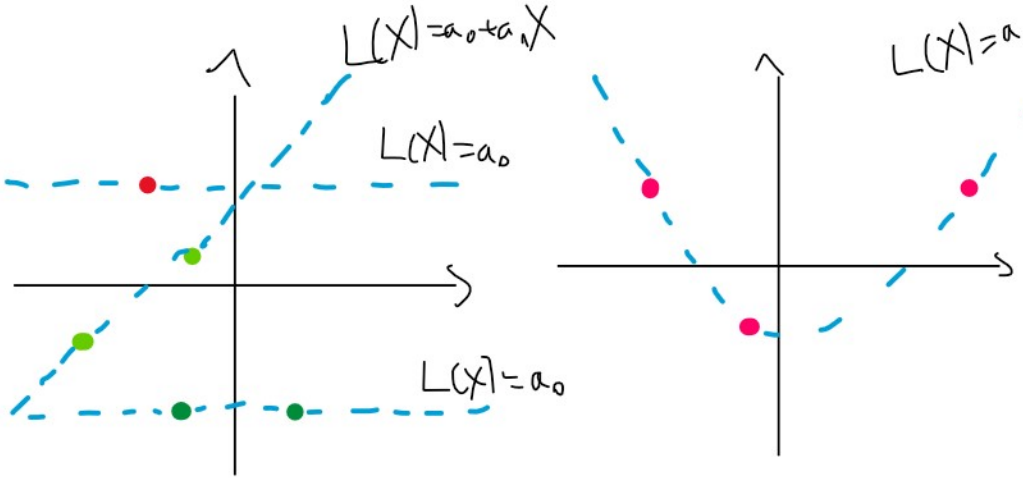
$$L(X) = a_0 + a_1 X + \dots + a_m X^m$$

grad L ≤ m = nr. noduri − 1

$$(*) \Leftrightarrow \begin{bmatrix} 1 & x_0 & \dots & x_0^m \\ 1 & x_1 & \dots & x_1^m \\ \vdots & & & \\ 1 & x_m & \dots & x_m^m \end{bmatrix} \cdot \begin{bmatrix} a_0 \\ a_1 \\ \vdots \\ a_m \end{bmatrix} = \begin{bmatrix} f_0 \\ f_1 \\ \vdots \\ f_m \end{bmatrix}$$

Vandermonde

Alternativă: formula baricentrică



Temă: implementați simbolic formula dorică pt. pol. Lagrange, fol. (1) și (2) din fișierul Lagrange.pdf.