

B-form

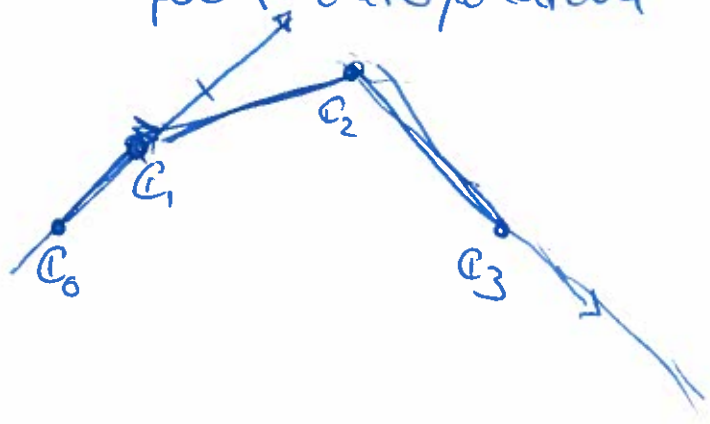
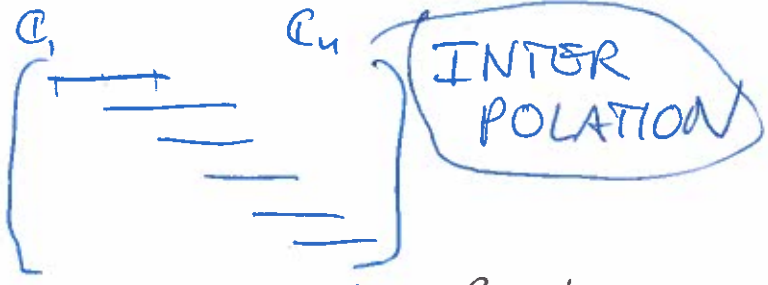
piecewise polynomial

BB-form

smooth

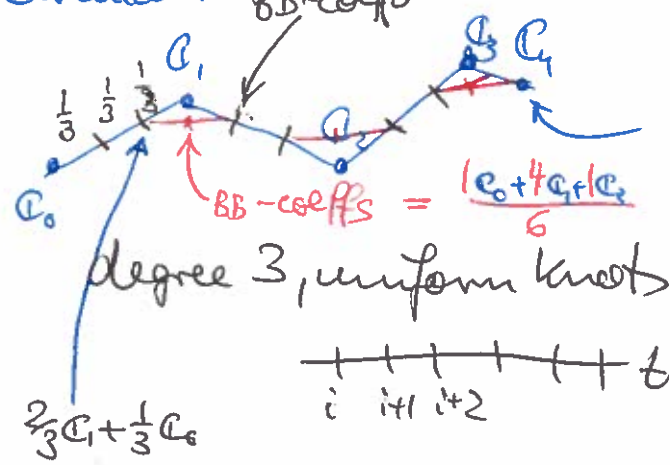
equation solve to interpolate

eg solve to make smooth end point interpolation



sparse, banded, circulant BB-coeffs

$$\frac{2}{3}C_1 + \frac{1}{3}C_2$$



B-spline control points

B-spline to BB-form conversion

degree 3, uniform knots



$$\frac{2}{3}C_1 + \frac{1}{3}C_2$$

$$\text{degree } \frac{1}{6} \begin{pmatrix} 1 & 4 & 1 \\ & 1 & 4 \\ & & 1 \end{pmatrix} \begin{pmatrix} C_0 \\ \vdots \\ C_n \end{pmatrix} = \begin{pmatrix} V_0 \\ \vdots \\ V_n \end{pmatrix} \begin{pmatrix} 0 \\ \vdots \\ 0 \end{pmatrix}$$

Schoenberg-Whitney Theorem

p6 of handout

