

Exercises

Università di Bologna, May 2012

Exercise 1:

Let $B_0(\vec{b}_0), B_1(\vec{b}_1), B_2(\vec{b}_2), B_3(\vec{b}_3)$ be the Bézier points, where $\vec{b}_0 = (1, 1)^T, \vec{b}_1 = (2, 3)^T, \vec{b}_2 = (4, 3)^T, \vec{b}_3 = (3, 1)^T$. Determine the parametric representation of the Bézier segment $\vec{x}(t)$ defined by the Bézier points B_0, B_1, B_2, B_3 on the interval $[0, 1]$. Compute the curve point corresponding to the parameter value $t = 2/3$ and sketch the curve.

Exercise 2:

Find a Bézier curve of degree 2 on the interval $[0, 1]$ that interpolates the points $P_0(0, 0), P_1(0, 2), P_2(6, 2)$. Determine its Bézier points by means of

- a) an equidistant parameterisation
- b) a chordal parameterisation.