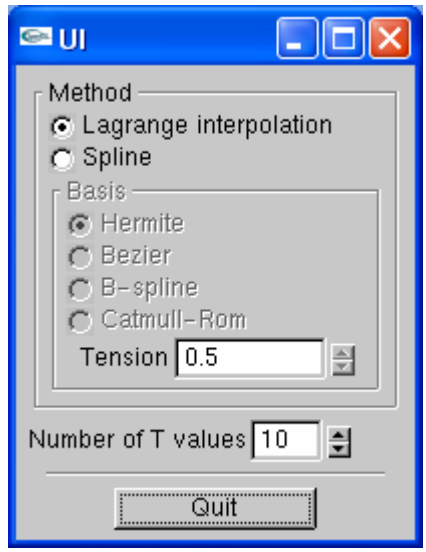
Complete the given source code that draws various parametric cubic polynomial curves, $Q(t) = \sum_{i=1}^{4} B_i(t) P_i$. The coordinates of the 4 control points are given: P_1, P_2, P_3, P_4 .

The program should draw curves using:

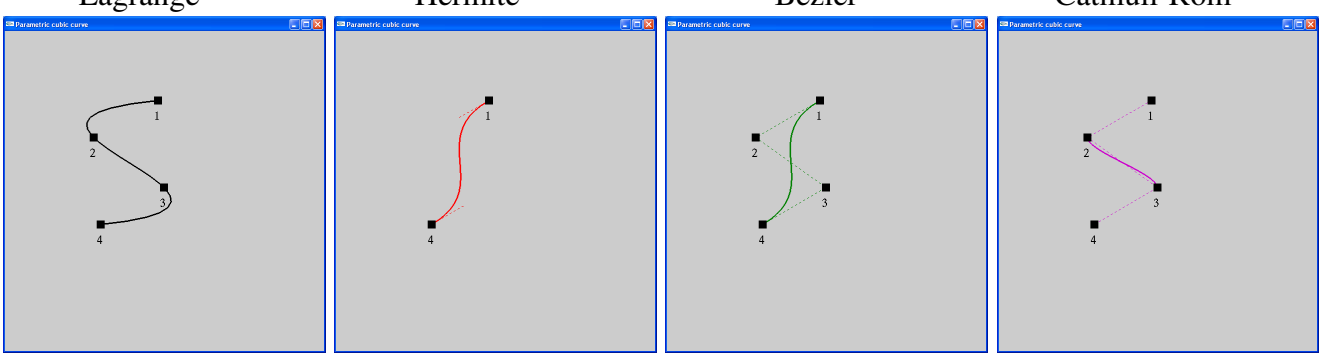


Lagrange interpolation

Splines:

Hermite basis
Bezier basis
B-spline basis ← not to be implemented yet
Catmull-Rom basis

Lagrange Hermite Bezier Catmull-Rom



Modify your Lab23 code to draw a *cubic* curve interpolated using Lagrange polynomials (**`Lagrange.cpp`**).

For each of the spline curves, you must implement the blending functions, $B_i(t)$ (**`render.cpp`**)

Remember, the coordinates of the point on the curve at a given value of the parameter, *t*, is obtained using:

$$Q(t) = B_1(t)P_1 + B_2(t)P_2 + B_3(t)P_3 + B_4(t)P_4$$