

**Files:** The accompanying files for this assignment are `assignment4_1.html` and `assignment4_2.html`.

**Delivery:** upload the modified HTML files and any other necessary files to the Racó. All explanations and/or answers to the problems should be included in the HTML file.

**Problem 1.** Write a program to draw a cubic Bézier curve, allowing the user to move the control points.

**Problem 2.** Extend your program to allow the user to enter additional control points, and draw a *composite Bézier curve* using those control points (i.e., a series of joined cubic Bézier curves). The resulting composite Bézier curve should have  $C^1$ -continuity. The program should allow arbitrarily large numbers of control points (subject to your system's constraint, naturally).

**Problem 3.** Extend further your program to allow the user to draw more than one composite Bézier curve. Each composite Bézier curve can have an arbitrary number of control points, specified by the user.

**Problem 4.** Using the program from the previous problem, design Bézier curves to form the contour of the first letter of your name.

Try to **make the shape of the letter as similar as possible to the original one**, using as few control points as possible.

The accompanying file `assignment4_2.html` shows a letter in the canvas as background, so you can draw your curves on top of that (of course, you can change the letter). It also contains a basic functionality to save and open objects as JSON files, which you can extend to easily save and restore your designs.