Assignment 3 for MAT4170
Spline methods, Spring 2023

This assignment consists of the following exercises from the Compendium.

1. Exercise 3.8

2. Exercise 3.10

3. Exercise 3.11: Evaluation of B-splines. Test your algorithm on the knot vector
$$\mathbf{t} = (-1, -1, -1, -1, 0, 1, 2, 3, 4, 5, 5, 5, 5)$$
   by plotting the non-zero B-splines of degree 3 on the interval $[0, 1]$.

4. Exercise 3.12: Evaluation of a spline. Test your algorithm by plotting the spline function with coefficients

$$(c_1, \ldots, c_9) = (-1, 1, -1, 1, -1, 1, -1, 1, -1),$$

   using the same knot vector $\mathbf{t}$ as above.

5. Exercise 3.13.

To be completed by Monday 27 March. Please send your solution as a single pdf file (including plots/figures) to `michaelf@math.uio.no`.