

# CALCULUS

## Bachelor in Computer Science and Engineering

Course 2021–2022

### Graph of a function

**Problem A.** Sketch the graph of the function  $f(x) = x^2 e^x$ .

**Problem B.** Sketch the graph of the following functions.

$$f(x) = x \sin(x).$$

$$g(x) = e^x \sin(x).$$

**Problem C.** Sketch the graph of the function

$$f(x) = x + \ln |x^2 - 1|.$$

Then, using such graph and without doing any additional calculation, sketch the graph of the function

$$g(x) = |x + \ln |x^2 - 1||.$$