Exercise 1 – Bracketing methods

In this exercise, your job is to program three bracketing methods, namely:

- Fibonacci search

- Golden section search

- Quadratic fit search

and use them for finding the minimum of a univariate function f on a given interval $[a, b]$.

The function of interest is

$$f(x) = 0.2 \cdot e^{x-2} - x$$

and the interval is $[-1, 5]$.

For each of the three methods, visualize the brackets after 5 function evaluations.