

# NUM I 22-23: Assignment 8

Write a Fortran program which does the following task:

- 1) Ask the program user a first estimate of  $x_0$  and  $x_1$ , and a precision  $\varepsilon$
- 2) Finds the root of the function

$$f(x) = (2 \exp(x) - 2 x^{**2} - 4)$$

by using the secant method and the bisection method.

- 3) Write on an output file the values of the iteration step and that of the estimated root at each iteration step for the two methods.

**BONUS QUESTION:** Which method is the faster?

HELP: <https://www.desmos.com/calculator>

Send the source code to <[ggiulian@ictp.it](mailto:ggiulian@ictp.it)> by October 10<sup>th</sup>

Only the file that contains the source code is required possibly named as: [Ass08.YourLastName.f90](#)

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