

Homework 7

Programming for Scientists

Due on: Mar 17

This week, you get fewer questions and a longer programming assignment.

§1 QUESTIONS

Question I: What is a local minimum? Is there any way to find out whether you are in a local minimum?

Question II: Newton's method is originally defined as solving for zero (i.e., solving $f(x) = 0$), but it was presented as solving a maximisation problem (i.e., $\max f(x)$). What's happening?

§2 PROGRAMMING ASSIGNMENT

(1) Implement any method you'd like to find a numerical minimum to:

$$f(x) = x^6 - 7x^4 + 3x^3 + 2x^2 - 3x. \quad (1)$$

(2) Use a pre-written method for the same task (like those in `scipy.optimize`).

§3 PROJECT

This is for everyone. Please email me your preferences for the class project.