

## Newton-Raphson iteration

In Lecture 8, we started to implement Newton-Raphson iteration. Our work was interrupted by the campus closure and then the midterm test. In this tutorial, you will finish the programming and testing.

- First, download the test function file `functions.py`, the test script `NR_example.py` and the Newton-Raphson function `NR.py` from the Tutorial 8 folder on Blackboard. Go over the annotated slides of Lecture 8 to remind yourself what Newton-Raphson iteration does.
- Now complete the test script and include a call to the not-yet-complete function `NR.py`.
- Secondly, complete the function `NR.py` following the pseudo-code in the lecture slides.
- Lastly, run the test script for different initial points and tolerances. Inspect the convergence. Is it quadratic?

We will use the Newton-Raphson algorithm later on in the course.