Optimisation 1, Lecture 5

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Previous lecture

- The Nelder–Mead (simplex) method for derivative free optimisation.
  - Definition and example.
  - (Non-)convergence properties.
- Line search methods: Backtracking gradient descent.
  - General set-up for line search methods.
  - Armijo condition.
  - Backtracking.

Goals for today's lecture

- Backtracking gradient descent:
  - Convergence proof.
- Alternative step length choices:
  - Goldstein conditions.
  - Weak and strong Wolfe conditions.
  - Algorithmic implementation.