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Nonlinear Optimization

<http://www.zib.de/weiser/NichtlineareOptimierung/>
Homework 8

Due: Friday, June 26, 2020

Assignment 1 (4 points):

Reconsider the example of Homework 07 Assignment 02. Now use the second order conditions to determine which of the candidate solutions are minimizers.

Assignment 2 (4 points, programming exercise):

We stay with the example from before.

- a) Use Newton's method to find candidate solutions that satisfy the first order conditions. I.e. solve the KKT-system.
- b) Proceed as in Homework 5 or 6 to draw the basins of attraction for this problem. Create figures for $\alpha = \{0.5, 0.75, 1\}$.

Hint: We provide a template for this function on the web page. You can use this and fill out the gaps.