UNIVERSITY OF COPENHAGEN

Sixth exercise class

Introduction to numerical programming and analysis

Jonathan Wenzel Pedersen

Spring 2023

The Inaugural Project

Inaugural Project, tips

Q1: Take inspiration from PS 1 question 2 and 3, you can either present the result as a table (as you did in PS1 question 2) or an graph (as you did in PS1 question 3). Remember that Jeppes code only works for $\sigma = 1$ so you need to modify it to work for $= 0.5$ and $\sigma = 1.5$

Q2: Just a repeat of question 1 just different parameters you change.

Q3: Consider using scipy solve with bounds, see PS1 for inspiration.

Q4: Just a repeat of problewm 3, create new functions to make this easier.

Q5: This is a free form question and you can really solve this however you want.

Inaugural Project, tips

Don't forget to document and comment your code properly, following the guidelines explained in lecture. Good documentation is good coding practice. It helps me and your peer-reviewers if you document now, but most importantly, you'll help your future selves to understand your own code.

Also: Be very mindful of positional and keywords arguments, and making sure to reference them in the right way.

Remember that *optimize.minimize_scalar* minimises with respect to the first argument of the objective-function.

It always good to make logic-checks, after finding your answers. For example, after finding h^*, maybe try to plot utility as function of h, and make sure your answer looks correct.

Sources of inspiration for the inaugural project:

The deadline for the inaugural problem is 26st of March.

1. PS1 and PS2 contains the tools you need for the project, understanding and using them is crucial.

Programming can be frustrating. Remember to take breaks when encountering frustrating bugs. Fresh eyes are much better a spotting bugs, this applies both to asking a friend, but also for taking breaks. It's okay to hand-in something where the final result is wrong, but you've been unable to fix it. Just make sure to document it, and I'll help you. You'll have time to revise for the exam.