Programming for Economist

Intro to Exercise classes

Class 5 & 9

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Agenda for today

1. Why is this course relevant? Why participate?
2. Who am I?
3. Who are you? Expectations
4. Practicalities
5. Installations, setup, problem set 0 and DataCamp

1. Why learn Python?

1. Python is a super versatile program that can be used to solve various economic problems.
   - Data handling
   - Numerical solutions
   - Simulations
   - Automation
2. Python can help bridge the gap between theory and practice.
   - Builds on your math knowledge and let's you work on more realistic economic models
3. Many courses later on uses Python as well as many workplaces.
4. You have an Exam

1. Why participate actively?

1. Python/programming is like solving puzzles – it can be fun to create and solve models.
2. You only learn programming/Python by doing.
   - Working actively will help you understand both code and economics better.
   - Focus is not on memorisations but understanding concepts.
3. The more you participate the more help and feedback you get.

2. Who am I?

- Matias Hall
- MSc in Economics last spring
  - Main interests: Dynamic models/programming, micro founded macroeconomics and econometrics
  - Was an active member of Kritiske Politter
- Currently working in the economics office of Christiania
- I taught a handful of 1st and 2nd year courses while studying and is now back to teaching again for the first time in over a year.
- Why I teach ProgEcon:
  - I really enjoy programming in Python and the tools it offers.
  - I think teaching is both fun and rewarding
- Contact: matias.hall@econ.ku.dk

3. Who are you?

Exercise to get to know each other:

- Take 2-3 minutes to discuss:
  - What semester are you on?
  - What is your programming experience(Python/other languages)
  - What motivated you to take this course?
  - What are your expectations from this course
- Pick one from your table/group to present what you discussed – keep it short.
- I will ask/learn your names as I come around and help while you work.

4. Practicalities

- **Calendar:** https://sites.google.com/view/numeconcph-progecon/calendar
- **Exercise classes:**
  - 14 x 3 hours
  - Short intro to the most important topics of today.
  - Then you will work on your own, and I'll come around to help
- **Deadlines**:
  - All must be completed on time to qualify for the exam.
  - **DataCamp** – 28th September
  - **Data project** – 29th October
  - **Model project** – 10th December
  - Approved projects does not mean a pass at the Exam, but you will have time to improve it.
- **Exam**
  - 40% revised projects and 60% 48 hour take home – Pass/fail

4. Practicalities

My solutions and slides are posted here:

https://github.com/Matias-BF-Hall/ProgEcon-Exercise-Classes

- **My expectations**:
  - That you follow lectures and know the curriculum.
  - You are ready when class begins and participate actively.
  - You ask lots of questions – no bad questions!
  - And that we'll have not only exciting but also enjoyable and cosy classes together ☺
- I can also make mistakes
  - Please say if you believe I made a mistake/said something wrong
  - I don't know everything by heart, but also actively use documentation and LLM's when I code.
  - Feedback is very welcome so we can improve classes together

5. Installations - Jeppe's Checklist

1. Login to DataCamp
2. Install Anaconda(Python), Git and VSCode
3. Clone course repositories with Git
4. Run code from lecture

Hints for Problem Set 0

- In Python, when counting a sequence of integers from 0 to n, the count starts at 0 but stops at n-1, i.e., not including n itself
- Given that x is a list, x[-1] accesses the last element in the list
- The break statement terminates a loop, while the continue statement ends the current iteration and proceeds to the next one
- Beware of global variables!
- x += 1 and x[:] = x +1 modifies an array in place, while x = x +1 creates a new array