

Programming for Economist

PS 4

Class 5 & 9

Matias B.F. Hall,
Institute of Economics,
November 2025

KØBENHAVNS UNIVERSITET



Plan for today

1. Data project
2. Random numbers and simulations
3. Tips for PS4

2. Random numbers and simulations

- A computer is never truly random but rather pseudo-random
- Reproduce same result through seed/knowledge of stream
 - Reset the seed every time you want the exact same draw/same results.
- Simulation powerful tool to test models and look at results.
- Second step after optimisation that we saw last week.

3. Hints for PS4

- Q2
 - Start with simple logic – use loops!
 - Loop over time and individuals(2.1 there is only one individual, $N=1$)
 - Use if statements to check what state the individual is in, in period t (employed or unemployed)
 - Depending on their draw update their state in $t+1$
 - Brigitte has a more efficient but harder solution – start simple.
- Q3
 - Loop over individuals, then check for each period if the state is the same as last
 - Count as you go. When the state has changed, save the length to a list, restart the count and continue counting through individuals.
 - 3.2 is hard – look at solution and make sure you understand.
- Q6
 - Use the same loop method as in Q2. You can always make a harder and more efficient solution after you understand the logic.