

# Programming for Economist

PS 4

Class 5 & 9

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# 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. Tips 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.