Welcome to EC212!

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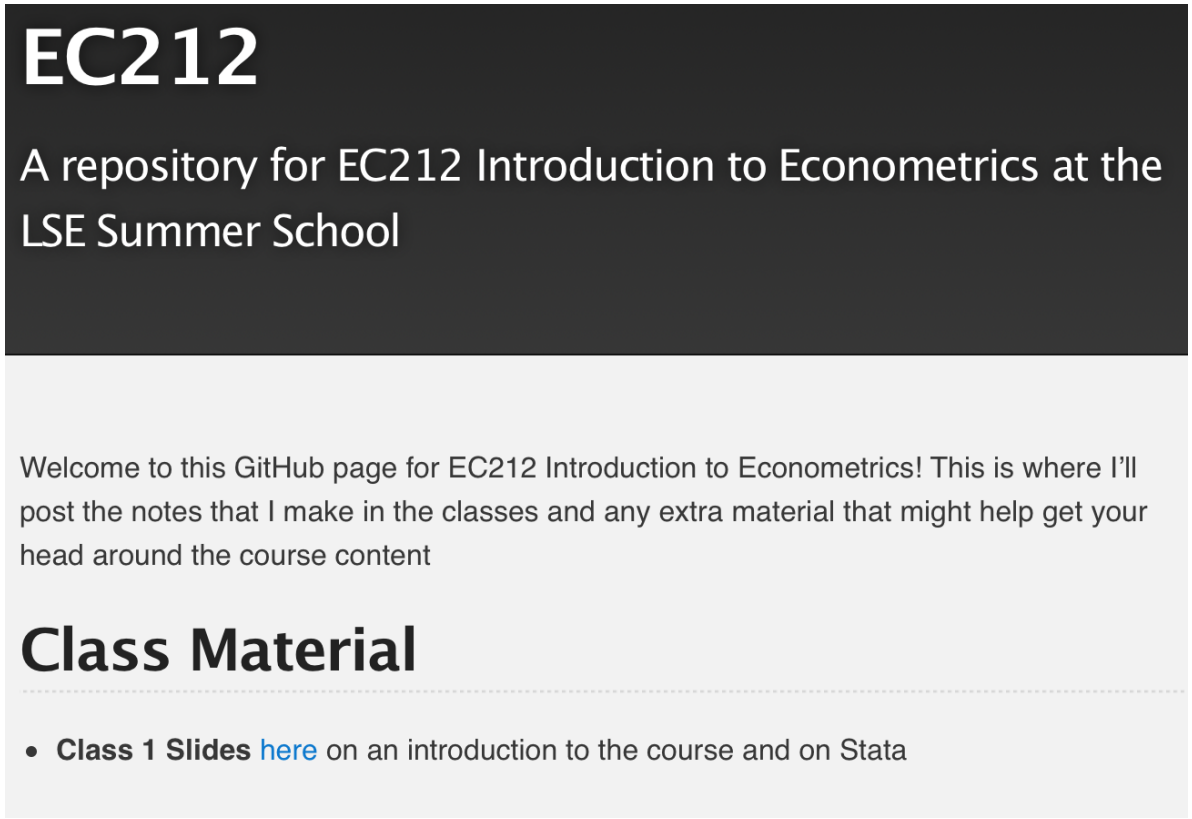
Who I am

- Tom Glinnan, 3rd year MRes/PhD student in Economics
- BSc and MSc both from LSE
- Research interests
  - Primary: Econometric Theory
  - Secondary: Micro Theory, Development
- My day-to-day job is inventing new Econometric methods and doing math to study their properties

Email and GitHub



EC212

A repository for EC212 Introduction to Econometrics at the LSE Summer School

Welcome to this GitHub page for EC212 Introduction to Econometrics! This is where I'll post the notes that I make in the classes and any extra material that might help get your head around the course content

Class Material

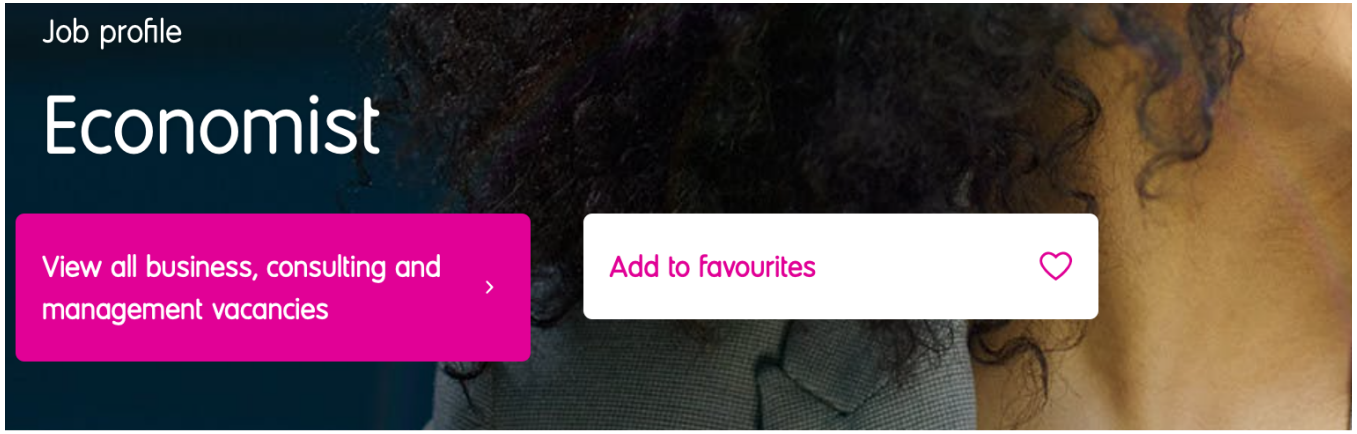
- **Class 1 Slides** here on an introduction to the course and on Stata

GitHub: `https://tomglinnan.github.io/EC212/`
Email: t.m.glinnan@lse.ac.uk

Why Study Econometrics?

- By this point you've done a tonne of Economics - especially if you did in school too - but did you always think it was realistic?
- Why don't we teach you about Marx's labour theory of value? Why is Behavioural Economics a thing? Why did the Economy deal (relatively) ok with Covid, but the Great Depression led to a world war?
- Also, 95% of jobs titled 'Economist' want **metrics**, not micro or macro
- And 95% of the research time of most Econ professors / PhD students

The job of an Economist I



Economists collect, study and analyse data in order to provide specialist economic advice to a wide range of organisations

As an economist, you'll carry out research and collect large amounts of information that can cover any aspect of economic and social policy, ranging from interest rates, taxation and employment levels to energy, health, transport and international development.

You'll analyse the information using specialist software and advanced methods in statistical analysis in order to produce forecasts of economic trends and make recommendations of ways to improve efficiency.

Figure: Micro or Macro, it's all **data** in the end[1]

[1] From `https://www.truity.com/career-profile/economist`

The job of an Economist II

Why do Economists do so much of this?

- Theory is amazing, but you've got to know when it works
- Very little 'pure' theory in modern Economics - everything is (rightly!) backed up with data from the real world
- My job: designing tools for other Economists

I genuinely believe that studying metrics changes how you think (for example, you will never trust a politician again)

Stata and coding

- Stata is a program used for Econometrics
- If you've ever coded before, you'll find it simple to pick up the grammar. If not, you'll probably pick it up faster than you think
- But we have to understand some computer concepts first
- Best way to learn: *practice*
  - There are a lot of commands
  - Every single person who codes regularly in their job looks up commands on Google all the time
  - Eventually you'll learn the commands that you use all the time - it's very organic

Computer Concepts I

- Data is usually stored in *.dta* or *.csv* files - you can easily convert between them
- A computer's graphical interface is just that - a way to implicitly write code. Writing your own gives more precision and allows you to do more
- Files are stored in folders (= directories)
  - To work with stata, best practise is to put all of your relevant things (eg data, graphs, etc) in one folder
  - Then you set this as your 'current working directory' with stata's *cd* command

Directories

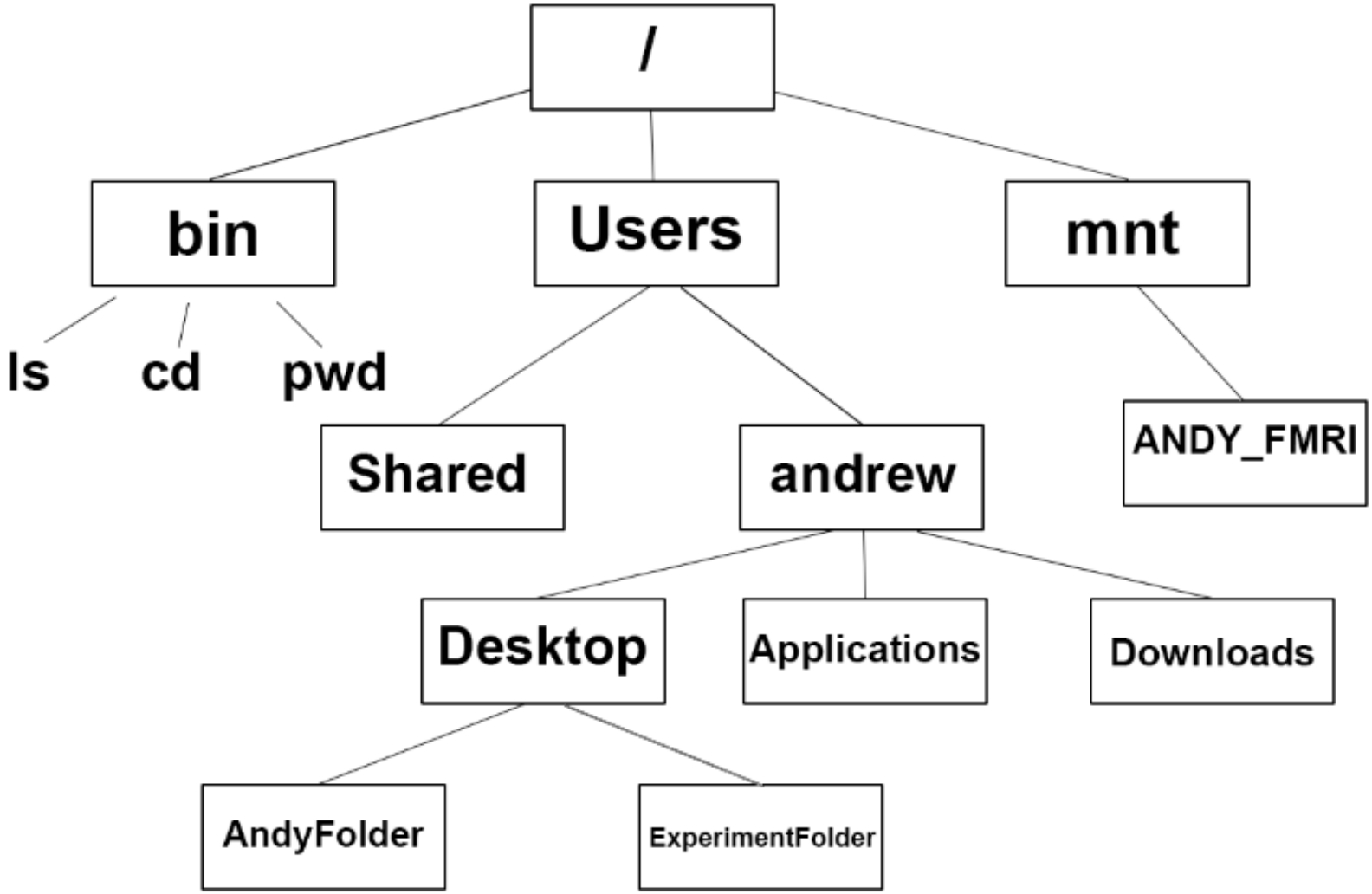


Figure: How folders might be organised on a Mac

Computer Concepts II

- **Two ways to code:** either tell the computer what to do right now, or send it a list of instructions in one go (like an email)
  - Right now: *interacting with the console*
  - A list: *running a script*. Stata name: *running a do file*
- A do file is a file on your computer with a *.do* extension. *Running* it makes the computer do all of the instructions
- Workflow: try out things in the console, then add your commands to a do file. That way, someone can replicate everything you did[2]

[2] Academic papers have to submit their do files / scripts. So do problem sets!

Stata Grammar (Syntax)

To run a command:

command object(s), option(s)

The options are optional (of course!)

For example if we have data (price, quantity) of cars sold by a dealership:

summarize price

regress price quantity, robust

We'll see what this all means later. Now to Stata