

# *Computer Programming in Econometrics*

*Introduction, structure, and advanced programming  
techniques*

*Tutorial 14 September 2009, Tinbergen Institute*

Charles Bos

`cbos@feweb.vu.nl`

VU University Amsterdam

Tinbergen Institute

## Day 1 - Afternoon

---

### 13.30 Practical (at VU, 3A05)

- Testing variables
- Testing functions
- Secret: Codifying a message

## Get started

---

- Create your personal directory on the network drive
- Unzip the files from `students.zip` there
- Copy a version of `lists/start.ox` to e.g. `vars.ox`, and start testing variables:
  - Assign/print a string
  - Assign/print a double/integer/matrix
  - Assign/print a array
  - Assign/print a function

## Get started II

---

- Copy a version of `lists/start.ox` to e.g. `func.ox`, and start testing functions:
  - Create a function to print an argument
  - Create a function to assign one value through a `return` statement
  - Same thing, with two values
  - Test changing a value through an argument, using an address

# Secret

(on purpose, exercise is a bit confuse...)

You are surrounded by spies, and you want to pass the secret message “This is a secret message” to your compatriots. The deal you made with them is that you would add 3 to the ASCII code of each letter, so that ‘A’ becomes ‘D’. What is the message you send to them?

# Secret inputs

## Inputs:

- `start.ox` (copy to `secret` subdirectory of your personal directory, give it another, logical, name)
- Check out a `for` loop:

```
for (i= 0; i < 5; ++i)
{
    println (i);
}
```

- Look up manual at  
`q:\algemeen\oxmetrics5\ox\doc\index.html`  
for function `sizeof()`
- Study morning-lecture on variables, especially strings and indexing

## Secret outputs

---

- In groups of two
- Hand-written analysis sheet: Steps, functions, input/output, possible approaches etc.
- Hand-written log-file, with time-stamp of what you tried (minimum frequency: Every 10 minutes)
- Intermediate versions of your programs, every half hour, save a file with extension indicating the time (for instance `myfile_hhmm.ox`; leave them in your personal folder).
- Print final version

Biggest mistake: Try to work on the exercise at once...

Big bonuspoints: Try to think of simpler exercises, how to test tiny steps first, eventually combining to the outcome

Biggest bonuspoints: Clean log-file, purposeful search of info, small tests (with corresponding tiny programs) and clean final version with sufficient (not too much, not too little either) commenting.

## Hand in

---

Above hand-written material to Xinying (at first convenient occasion).  
Zip-file with your `secret` directory, including temporary files, through  
Blackboard (<http://www.eur.edu/>), before Tuesday 22/9 9h00.