

About the Final Exam

These are what seem to me to be the most important topics of the course.

There are three **types of questions** I can ask. There will be at least one question of each type.

Type I. Here is some code; what does it do? Typically the program will print something and I'll what to know what it prints.

Type II. Here is some buggy code and an error message (or some incorrect output). Explain what is wrong and possibly how to fix it.

Type III. Write a function (or a program) to do X.

Topics:

- A. Basic types: integers, booleans and strings
- B. Variables and variable names
- C. Basic statements
 - Assignment statements
 - `input()` statements
 - IF-statements
 - **WHILE-loops**
 - **FOR-loops**
- D. **Functions:**
 - **Function definitions**
 - **Arguments and Parameters**
 - **Function calls**
 - **Functions returning values**
- E. Structures
 - Files (both reading a file and writing a file)
 - **Lists**
 - Dictionaries
 - Sets
- F. **Recursion**
- G. **Classes.**
 - **instance variables and class variables**
 - **constructors: `__init__`(...)**
 - **self**
 - **methods**
 - **creating objects**
 - **subclasses and inheritance**
 - **overriding inheritance**
- H. Processes
 - Creating and starting a process
 - Process pools
 - Locks

I. Other

- Exceptions and try-except statements
- Random numbers

The most important topics here are loops, functions, recursion, and classes.