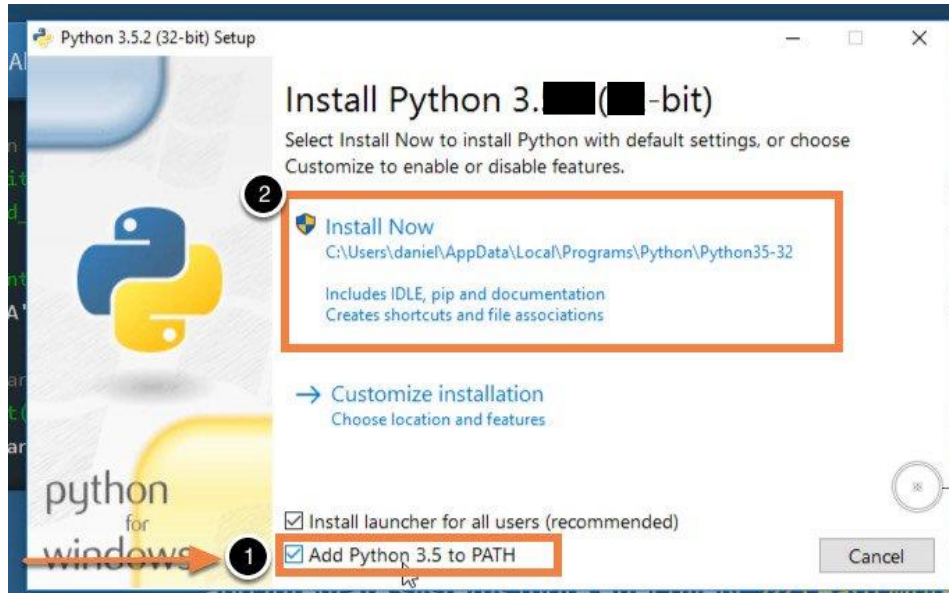


Guide to GrandeOmega (GO)

Installation

- Download and install node.js (LTS) from: <https://nodejs.org/en/download/>
- Download and install the latest Python version (3.X) from: <https://www.python.org/downloads/>
 - For Windows users, make sure to have Python added to your environment variables



NOTE : clicking the box as shown in the previous image this will work most of the times. You can check if Python was successfully added to the environment variables by following the instructions in the following link: <https://www.architectryan.com/2018/03/17/add-to-the-path-on-windows-10/>)

- Download the client of GO, from the links on [N@tschool](#):
 - go_student_win.7z for windows
 - go_student_mac.zip for mac
 - Note: the file is archived with 7zip (download it, if needed)
- Unzip the compressed folder downloaded at the previous step
- Execute the **GrandeOmega.exe** file:

d3dcompiler_47.dll	9/7/2018 11:16 AM	Application extension	4,077 KB
ffmpeg.dll	9/7/2018 11:16 AM	Application extension	1,910 KB
→ GrandeOmega.exe	9/7/2018 11:19 AM	Application	66,003 KB
icudtl.dat	9/7/2018 11:16 AM	DAT File	9,959 KB
libEGL.dll	9/7/2018 11:16 AM	Application extension	18 KB
libGLESv2.dll	9/7/2018 11:16 AM	Application extension	3,602 KB

Use

- After the client starts, you need to login with your credentials (you will receive via your student email instructions to get access):

Email

Password

Login

- After having logged in, you will see a screen with the courses you are subscribed to:

Welcome (student), abbam@hr.nlLogout

Courses

Development 1
Basic imperative computational concepts and flow control.

Development 6A
Introduction to algorithms.

Development 5
Web development: from ORM's to API's to single page applications.

Guide to GrandeOmega
An introductory guide to GrandeOmega.

Development 2
Functions, lambda expressions, recursion, higher order functions.

Development 6B
Advanced databases

Software engineering 1
Functors, monads, and other advanced data structures in practice.

Development 3
Static typing, object orientation, subtyping polymorphism

Development 4
Polymorphism, exception-handling, and basic design patterns

Software engineering 2
A categorical perspective on functors and monads via Bi-Cartesian Closed Categories.

Development 1 (2018-2019)
Basic imperative computational concepts and flow control.

- Clicking on a course, you will see the chapters of materials available for such course:

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CoursesDevelopment 1 (2018-2019)

Chapter 1
Basics of Computation

Chapter 2
Variables, Expressions, and Operator Precedence

Chapter 3
Basic Data Types

Chapter 4
Control Flow

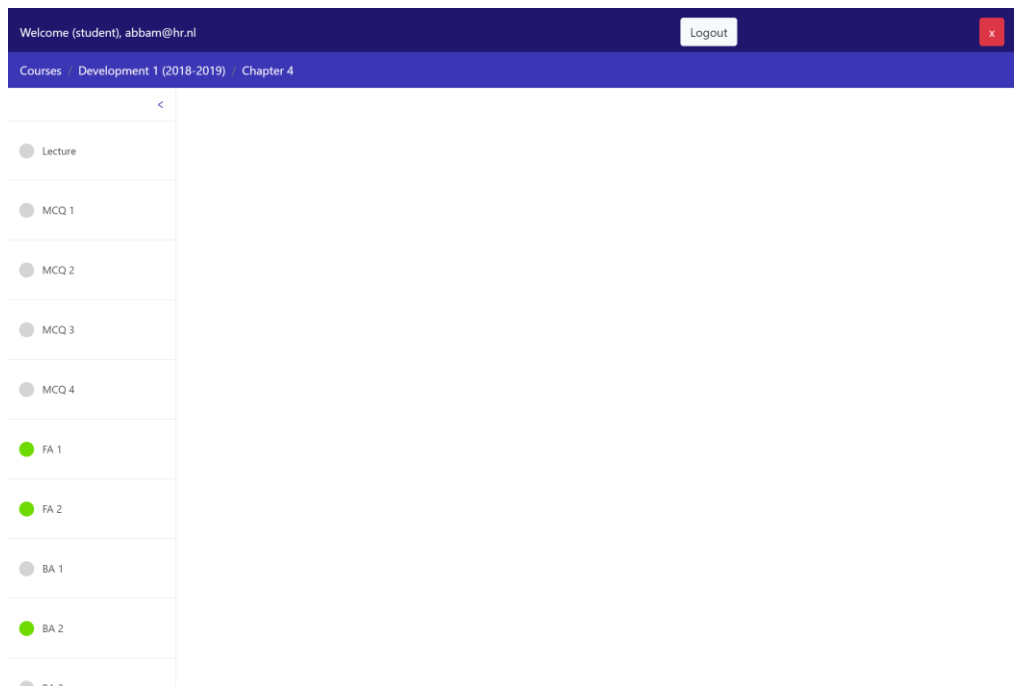
Chapter 5
Loops and Iteration

Chapter 6
Introduction to Python

Chapter 7
Some Sample Python Programs

Chapter 8
Declarative vs Imperative Style

- Clicking on a chapter, you will see the materials associated to such chapter in a column on the left of the screen. Click on the name of an item to open its associated content.



- A single chapter is usually composed by:
 - The reader of the corresponding lecture
 - A series of exercises which are a combination of:
 - Multiple Choice Questions (MCQ)
 - Forward Assignments (FA)
 - Backward Assignments (BA)
- During the practicum, the teachers will show you more in detail how to solve the Forward and Backward assignments.
- In short, a **Forward Assignment** shows you a program and the (sometimes incomplete) state associated to certain steps of the execution of such program (marked with red blocks to the left of the code). To solve a FA, you need to insert the missing values of variables in *all* incomplete states (remember to click “Next” until the last state is reached). For example:

```

1  x=5
2  y=1
3  x=3
4  y=x
5

```

Reset

Globals

x

Heap

Stack

Prev
Next

The state on the right (Globals, etc.) corresponds to the state of the program when the line of code marked with a yellow block is about to be executed (in the example above, when line 2 is about to be executed).

A **Backward assignment**, instead, shows you an incomplete program and the states associated to some steps of the execution of the complete program (again, marked by red/yellow blocks to the left of the code). By looking at such states, you should be able to fill in the missing parts of the program. For example:

1

2

3

4

a =

b = 1

c = 2

Validate

Cancel validation

Globals

a	0
b	1
c	2

Heap

Stack

0 1 2 3

To see if your code solves the BA, click on “Validate” and you will get feedback.
When an assignment is correctly solved (both FA and BA) a “Success!” green message will appear on screen:

1

2

3

4

a = 0

b = 1

c = 2

Validate

Cancel validation

Globals

a	0
b	1
c	2

Heap

Stack

0 1 2 3

Success!

Otherwise, a “Wrong!” red message appears (and in BAs the wrong values of your program are shown in red close to the correct ones in green in the state):

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Logout

Wrong!

Development 1 (2018-2019) Chapter 2

Lesson

Exercises

MCQ 1

1

2

3

4

a = 987

b = 1

c = 2

Validate

Cancel validation

Globals

a	0	987
b	1	1
c	2	2

Heap

Stack

0 1 2 3

The round icon close to the assignment name in the left column also gets such color (orange for incomplete/wrong and green for complete):

● FA 5

● BA 1