

# Piscine Discovery Administration guide

Staff 42 piscine@42.fr

Summary: Guide for the administrators of the Discovery Piscine.

Version: 1

# Contents

Ι	Overview
II	Typical day
III	First day
IV	Last day
V	Cell 0: Shell
VI	Cell 1: Python
VII	Cell 2: Python
VIII	Cell 3: Python
IX	Cell 4: Python
$\mathbf{X}$	Cell 5: Python
XI	Cell 6: Python
XII	Cell 7: Python

# Chapter I

## Overview

#### Cells overview:

- Cell 0 shell: Discover the shell.
- Cell 1 Python: Manipulation of variables
- Cell 2 Python: Discovery of the conditional.
- Cell 3 Python: Discovery of the loops.
- Cell 4 Python: Discovery simple objects.
- Cell 5 Python: Discovery advanced objects.
- Cell 6 Python: Discovery of classes/methods.
- Cell 7 Python: Discovery of dictionaries.

# Chapter II Typical day

Hours	Activities	
8h00 - 10h00	Project of the day	
10h00 - 10h30	Exchange between supervisors	
and students in a group for		
10h30 - 12h00	Project of the day	
12h00 - 13h00	Lunch break	
13h00 - 15h00	Project of the day	
15h00 - 16h00	Mandatory evaluation with the	
/	help of the supervisors	
16h00 - 18h00	Project of the day	



Ideally, the students of the campus could help the Discovery Piscine' students.



Please give the Discovery Piscine's students some advice about using a text editor such as Vim.

# Chapter III First day

Hours	Activities	
8h00 - 9h00	Presentation of the Piscine in	
	group format	
9h00 - 10h00	Project of the day	
10h00 - 10h30	Exchange between supervisors	
	and students in a group format	
10h30 - 12h00	Project of the day	
12h00 - 13h00	Lunch break	
13h00 - 15h00	Project of the day	
15h00 - 16h00	Mandatory evaluation with the	
/	help of the supervisors	
16h00 - 18h00	Project of the day	

The Discovery session should begin with a group presentation including an explanation of how the Discovery Piscine works.

Introducing the staff members to the students is optional but highly recommended. Explaining the curriculum of the Discovery Piscine days is expected. During the first days, do not hesitate to help the students who struggle with the exercises.

The daily moment of exchange allows the students to seek for help, between them in priority. A supervisor will be there to facilitate the exchange.

# Chapter IV Last day

Hours Activities		
9h00 - 9h30	Presentation of the Ending	
9h30 - 10h30	Project of the day	
10h30 - 11h00	Exchange between supervisors	
	and students in a group format	
11h00 - 12h00	Projects	
12h00 - 13h00	Lunch break	
13h00 - 15h00	Projects	
15h00 - 16h00	Mandatory evaluation with the	
help of the supervisors		
16h00 - 17h00	End of the Piscine	

This last day should be the Discovery Piscine closing day.

Students will be able to continue past days.

A group presentation is expected at the beginning of the day. You will have to be careful not to leave any student behind.

The last moment to discuss the whole Discovery Piscine will be at the end of the day. We can imagine some animations, like the presentation of the best Project to other students, and so forth.

You should not hesitate to listen and take note of the things that worked or didn't work, in order to improve the next Discovery Piscines.

# Chapter V

# Cell 0: Shell

	Exercise 00	
/	The basic	
Turn-in directory : $ex00/$		
Files to turn in : None		
Allowed functions : None		

#### Solution:

> mkdir -p ~/discovery\\_piscine/cell00/ex00

	Exercise 01	
/	My first script	
Turn-in directory : $ex01/$		
Files to turn in: 42.py		
Allowed functions : None		/

#### Solution:

> echo 'print(42)' >> ~/discovery\\_piscine/cell00/ex01/42.py

Administration guide



Exercise 02

Hello!

Turn-in directory : ex02/

Files to turn in : hello\_world.py

Allowed functions: None

#### Solution:

> echo 'print(Hello World)' >> ~/discovery\\_piscine/cell00/ex02/hello\_world.py

# Chapter VI

# Cell 1: Python

	Exercise 00	
/	Displaying a name	/
Turn-in directory : $ex00/$		
Files to turn in : name.py		/
Allowed functions · All		

#### Solution:

```
> cat ~/discovery\_piscine/cell01/ex00/name.py
first_name = 'Wil'
last_name = '42'
print(first_name, last_name)
>
```

	Exercise 01	
	Displaying a name, improved	/
Turn-in directory : $ex01/$		/
Files to turn in : name.py		/
Allowed functions: All		

```
> cat ~/discovery\_piscine/cell01/ex01/name.py
first_name = 'Wil'
last_name = '42'
whole_name = first_name + ' ' + last_name
print(whole_name)
>
```

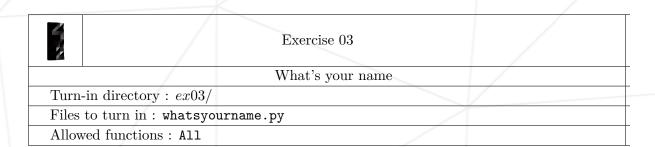
Piscin	e Discovery

Administration guide

	Exercise 02	
	Displaying your age in 42 years	/
Turn-in directory : $ex02/$		/
Files to turn in : age.py		/
Allowed functions: All		

#### Solution:

```
> cat ~/discovery\_piscine/cell01/ex02/age.py
age = 25
print(age + 42)
>
```



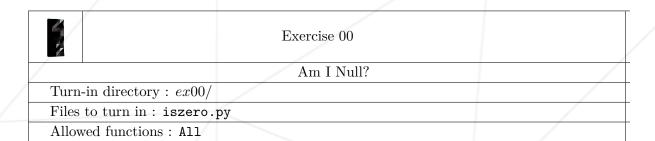
```
> cat ~/discovery\_piscine/cell01/ex03/whatsyourname.py
first_name = input("Hey, what's your first name? : ")
last_name = input("And your last name? : ")

first_name = first_name.strip()
last_name = last_name.strip()

print(f"Well, pleased to meet you, {first_name} {last_name}.")
>
```

## Chapter VII

# Cell 2: Python



```
> cat ~/discovery\_piscine/cell02/ex00/iszero.py
#!/usr/bin/env python

# Ask the user to enter a number
number = float(input("Enter a number: "))

# Check if the number is equal to zero
if number == 0:
    print("This number is equal to zero.")
else:
    print("This number is different from zero.")
>
```

Piscine	Discovery	,

#### Administration guide

4/	Exercise 01	
2	2.00.000 01	
/	Am I Negative?	
Turn-in directory : $ex01$	1	
Files to turn in : isneg.	ру	
Allowed functions · All		

```
> cat ~/discovery\_piscine/cell02/ex01/isneg.py
#!/usr/bin/env python

# Ask the user to enter a number
number = float(input("Enter a number: "))

# Check if the number is negative
if number < 0:
    print("This number is negative.")
elif number > 0:
    print("This number is positive.")
else:
    print("This number is both positive and negative.")
>
```



#### Exercise 02

Passwords

Turn-in directory : ex02/

Files to turn in : password.py

Allowed functions: All

#### Solution:

```
> cat ~/discovery\_piscine/cel102/ex02/password.py
#!/usr/bin/env python

# Define the correct password
password = "Python is awesome"

# Ask the user to enter a password
entered_password = input("Enter the password: ")

# Check if the entered password is correct
if entered_password == password:
    print("ACCESS GRANTED")
else:
    print("ACCESS DENIED")
>
```



#### Exercise 03

#### Multiplication

Turn-in directory: ex03/Files to turn in: mult.py Allowed functions: None

```
> cat ~/discovery\_piscine/cell02/ex03/mult.py
#!/usr/bin/env python

# Ask the user to enter the first number
num1 = int(input("Enter the first number:\n"))

# Ask the user to enter the second number
num2 = int(input("Enter the second number:\n"))

# Calculate the result of the multiplication
result = num1 * num2

# Display the multiplication equation and result
print(f"{num1} x {num2} = {result}")

# Check the sign of the result
if result > 0:
    print("The result is positive.")
elif result < 0:
    print("The result is negative.")
else:
    print("The result is positive and negative.")
>
```

## Chapter VIII

## Cell 3: Python



#### Exercise 00

Up to 25

Turn-in directory: ex00/Files to turn in: to25.py Allowed functions: All

```
?> cat ~/discovery\_piscine/cell03/ex00/to25.py
#!/usr/bin/env python

# Ask the user to enter a number
num = int(input("Enter a number less than 25:\n"))

# Check if the number is greater than 25
if num > 25:
    print("Error")
else:
    # Create a loop to display numbers from the input up to 25
while num <= 25:
    print(f"Inside the loop, my variable is {num}")
    num += 1
?>
```



#### Exercise 01

The return of multiplication tables

Turn-in directory : ex01/

Files to turn in : multiplication\_table.py

Allowed functions: All

#### Administration guide



#### Exercise 02

Do you got it?

Turn-in directory : ex02/

Files to turn in : i\_got\_that.py

Allowed functions: All

Solution in resources.



#### Exercise 03

The Return of the Return of Multiplication Tables

Turn-in directory: ex03/

Files to turn in : advanced\_mult.py

Allowed functions: All

## Chapter IX

## Cell 4: Python



#### Exercise 00

#### See it in Capital

Turn-in directory : ex00/

Files to turn in : upcase\_it.py

Allowed functions: All

```
?> cat ~/discovery\_piscine/cel104/ex00/upcase_it.py
#!/usr/bin/env python

# Ask the user for a word
word = input("Give me a word: ")

# Convert the word to uppercase and display it
uppercase_word = word.upper()
print(uppercase_word)
?>
```



#### Exercise 01

#### Retrieve and Modify a Number

Turn-in directory: ex01/

Files to turn in : age.py

Allowed functions: All

#### Administration guide



#### Exercise 02

#### Performing Basic Operations

Turn-in directory : ex02/

Files to turn in : calculator.py

Allowed functions: All

Solution in resources.



#### Exercise 03

Working with Floating-Point Numbers

Turn-in directory : ex03/

Files to turn in: float.py

Allowed functions: All

Solution in resources.



#### Exercise 04

I Don't Like Commas

Turn-in directory : ex04/

Files to turn in : round\_up.py

Allowed functions: All

#### Administration guide



#### Exercise 05

Working with Floating-Point Numbers

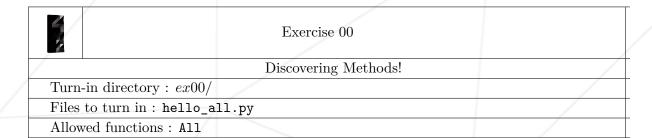
Turn-in directory : ex05/Files to turn in : float.py

Allowed functions: All

# Chapter X Cell 5: Python All solution in resources. 18

# Chapter XI

# Cell 6: Python



Solution in resources.

4	Exercise 01	
/	The Return of upcase!	/
Turn-in directory : $ex01/$		/
Files to turn in : upcase_it.py		/
Allowed functions: All		/

#### Administration guide



#### Exercise 02

Let's Stroll in the Array

Turn-in directory : ex02/

Files to turn in : downcase\_all.py

Allowed functions: All

Solution in resources.



#### Exercise 03

Let's Say Hello to everyone!

Turn-in directory : ex03/

Files to turn in : greetings\_for\_all.py

Allowed functions: All

Solution in resources.



#### Exercise 04

Methods Everywhere!

Turn-in directory : ex04/

Files to turn in : methods\_everywhere.py

Allowed functions: All

# Piscine Discovery Administration guide Exercise 05Can't touch this! Turn-in directory : ex05/Files to turn in : scope\_that.py Allowed functions: All Solution in resources.

# Chapter XII

# Cell 7: Python

	Exercise 00	
	Organize this list of names for me!	/
Turn-in directory : $ex00$	/	/
Files to turn in : your_namebook.py		/
Allowed functions: All		/

Solution in resources.

	Exercise 01	
	Family Matters	
Turn-in directory : $ex01/$		/
Files to turn in : family_affairs.py		/
Allowed functions : A	/	

#### Administration guide



#### Exercise 02

Give Your Professor a Helping Hand

Turn-in directory : ex02/

Files to turn in : help\_your\_professor.py

Allowed functions: All

Solution in resources.



#### Exercise 03

People Worth Knowing

Turn-in directory : ex03/

Files to turn in : persons\_of\_interest.py

Allowed functions: All