



Piscine Discovery

Administration guide

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Summary:
Guide for the administrators of the Discovery Piscine.

Version: 1

Contents

I	Overview	2
II	Typical day	3
III	First day	4
IV	Last day	5
V	Cell 0: Shell	6
VI	Cell 1: Python	8
VII	Cell 2: Python	10
VIII	Cell 3: Python	13
IX	Cell 4: Python	15
X	Cell 5: Python	18
XI	Cell 6: Python	19
XII	Cell 7: Python	22

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 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



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



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



In this Piscine, learners will not use git repositories for each project or exercise (as usually done in the 42 cursus). Indeed, it would take too long to learn git in such a short time. Evaluations are completed directly in the working directory of each learner.

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 : <i>ex00/</i>	
Files to turn in : None	
Allowed functions : None	


Solution:

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

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

Solution:

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


	Exercise 02
Hello !	
Turn-in directory : <i>ex02/</i>	
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 : <i>ex00/</i>	
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 : <i>ex01/</i>	
Files to turn in : name.py	
Allowed functions : All	

Solution:

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


print(whole_name)
>
```

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

Solution:

```
> cat ~/discovery\_piscine/cell01/ex02/age.py
age = 25

print(age + 42)
>
```

	Exercise 03
What's your name	
Turn-in directory : <i>ex03/</i>	
Files to turn in : whatsyourname.py	
Allowed functions : All	

Solution:


```
> 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


	Exercise 00
Am I Null?	
Turn-in directory : <i>ex00/</i>	
Files to turn in : iszero.py	
Allowed functions : All	

Solution:

```
> cat ~/discovery\_piscine/cell102/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.")
>
```


	Exercise 01
Am I Negative?	
Turn-in directory : <i>ex01/</i>	
Files to turn in : isneg.py	
Allowed functions : All	

Solution:

```
> 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 : <i>ex02/</i>	
Files to turn in : <code>password.py</code>	
Allowed functions : All	


Solution:

```
> cat ~/discovery\_piscine/cell02/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 : <i>ex03/</i>	
Files to turn in : <code>mult.py</code>	
Allowed functions : None	

Solution:

```
> 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 : <i>ex00/</i>	
Files to turn in : <i>to25.py</i>	
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 : <i>ex01/</i>	
Files to turn in : <i>multiplication_table.py</i>	
Allowed functions : All	

Solution in resources.

	Exercise 02
Do you got it?	
Turn-in directory : <i>ex02/</i>	
Files to turn in : i_got_that.py	
Allowed functions : A11	


Solution in resources.

	Exercise 03
The Return of the Return of Multiplication Tables	
Turn-in directory : <i>ex03/</i>	
Files to turn in : advanced_mult.py	
Allowed functions : A11	

Solution in resources.

Chapter IX


Cell 4: Python

	Exercise 00
See it in Capital	
Turn-in directory : <i>ex00/</i>	
Files to turn in : upcase_it.py	
Allowed functions : All	


```
?> cat ~/discovery\_piscine/cell04/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 : <i>ex01/</i>	
Files to turn in : age.py	
Allowed functions : All	


Solution in resources.

	Exercise 02
Performing Basic Operations	
Turn-in directory : <i>ex02/</i>	
Files to turn in : calculator.py	
Allowed functions : All	


Solution in resources.

	Exercise 03
Working with Floating-Point Numbers	
Turn-in directory : <i>ex03/</i>	
Files to turn in : float.py	
Allowed functions : All	

Solution in resources.

	Exercise 04
I Don't Like Commas	
Turn-in directory : <i>ex04/</i>	
Files to turn in : round_up.py	
Allowed functions : All	

Solution in resources.

	Exercise 05
Working with Floating-Point Numbers	
Turn-in directory : <i>ex05/</i>	
Files to turn in : float.py	
Allowed functions : All	

Solution in resources.


Chapter X

Cell 5: Python


All solution in resources.

Chapter XI


Cell 6: Python

	Exercise 00
Discovering Methods!	
Turn-in directory : <i>ex00/</i>	
Files to turn in : hello_all.py	
Allowed functions : All	


Solution in resources.

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


Solution in resources.

	Exercise 02
Let's Stroll in the Array	
Turn-in directory : <i>ex02/</i>	
Files to turn in : downcase_all.py	
Allowed functions : All	


Solution in resources.

	Exercise 03
Let's Say Hello to everyone!	
Turn-in directory : <i>ex03/</i>	
Files to turn in : greetings_for_all.py	
Allowed functions : All	

Solution in resources.

	Exercise 04
Methods Everywhere!	
Turn-in directory : <i>ex04/</i>	
Files to turn in : methods_everywhere.py	
Allowed functions : All	


Solution in resources.

	Exercise 05
Can't touch this!	
Turn-in directory : <i>ex05/</i>	
Files to turn in : scope_that.py	
Allowed functions : A11	


Solution in resources.

Chapter XII


Cell 7: Python

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


Solution in resources.

	Exercise 01
Family Matters	
Turn-in directory : <i>ex01/</i>	
Files to turn in : <code>family_affairs.py</code>	
Allowed functions : <code>All</code>	

Solution in resources.

	Exercise 02
Give Your Professor a Helping Hand	
Turn-in directory : <i>ex02/</i>	
Files to turn in : help_your_professor.py	
Allowed functions : A11	

Solution in resources.

	Exercise 03
People Worth Knowing	
Turn-in directory : <i>ex03/</i>	
Files to turn in : persons_of_interest.py	
Allowed functions : A11	

Solution in resources.