

**Version: 1.0**



# Selection

## Git-Fundamentals

### Summary

Learn and practice fundamental Git commands and SSH key management through shell scripting.

#Shell

#Unix

#Git

42

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# Chapter 1

## Instructions

- Only this page will serve as a reference: do not trust rumors.
- Watch out! This document could potentially change up until submission.
- Make sure you have the appropriate permissions on your files and directories.
- You have to follow the submission procedures for all your exercises.
- Your exercises will be checked and graded by your fellow classmates.
- Additionally, your exercises will be checked and graded by a program called Moulinette.
- Moulinette is very meticulous and strict in its evaluation of your work. It is entirely automated, and there is no way to negotiate with it. So, to avoid bad surprises, be as thorough as possible.
- Moulinette is not very open-minded. It won't try to understand your code if it doesn't adhere to the Norm. Moulinette relies on a program called `norminette` to check if your files respect the norm. TL;DR: it would be foolish to submit work that doesn't pass `norminette`'s check.
- These exercises are carefully laid out by order of difficulty - from easiest to hardest. We will not consider a successfully completed harder exercise if an easier one is not perfectly functional.
- Using a forbidden function is considered cheating. Cheaters get -42, and this grade is non-negotiable.
- You'll only have to submit a `main()` function if we ask for a program.
- Moulinette compiles with these flags: `-Wall` `-Wextra` `-Werror`, and uses `cc`.
- If your program doesn't compile, you'll get 0.
- You cannot leave any additional files in your directory other than those specified in the subject.
- Got a question? Ask your peer on the right. Otherwise, try your peer on the left.
- Your reference guide is called `Google` / `man` / `the Internet` / ....
- Check out the Slack Piscine.

- Examine the examples thoroughly. They could very well call for details that are not explicitly mentioned in the subject...
- By Odin, by Thor! Use your brain!!!



Do not forget to add the *standard 42 header* in each of your .c/.h files.  
Norminette checks its existence anyway!



Norminette must be launched with the `-R CheckForbiddenSourceHeader` flag.  
Moulinette will use it too.

## ● Context

The C Piscine is intense. It's your first big challenge at 42 — a deep dive into problem-solving, autonomy, and community.

During this phase, your main objective is to build your foundation — through struggle, repetition, and especially **peer-learning** exchange.

In the AI era, shortcuts are easy to find. However, it's important to consider whether your AI usage is truly helping you grow — or simply getting in the way of developing real skills.

The Piscine is also a human experience — and for now, nothing can replace that. Not even AI.

For a more complete overview of our stance on AI — as a learning tool, as part of the ICT curriculum, and as a growing expectation in the job market — please refer to the dedicated FAQ available on the intranet.

## ● Main message

- 👉 Build strong foundations without shortcuts.
- 👉 Really develop tech & power skills.
- 👉 Experience real peer-learning, start learning how to learn and solve new problems.
- 👉 The learning journey is more important than the result.
- 👉 Learn about the risks associated with AI, and develop effective control practices and countermeasures to avoid common pitfalls.

## ● Learner rules:

- You should apply reasoning to your assigned tasks, especially before turning to AI.
- You should not ask for direct answers to the AI.
- You should learn about 42 global approach on AI.

## ● Phase outcomes:

Within this foundational phase, you will get the following outcomes:

- Get proper tech and coding foundations.
- Know why and how AI can be dangerous during this phase.

## ● **Comments and example:**

- Yes, we know AI exists — and yes, it can solve your activities. But you're here to learn, not to prove that AI has learned. Don't waste your time (or ours) just to demonstrate that AI can solve the given problem.
- Learning at 42 isn't about knowing the answer — it's about developing the ability to find one. AI gives you the answer directly, but that prevents you from building your own reasoning. And reasoning takes time, effort, and involves failure. The path to success is not supposed to be easy.
- Keep in mind that during exams, AI is not available — no internet, no smartphones, etc. You'll quickly realise if you've relied too heavily on AI in your learning process.
- Peer learning exposes you to different ideas and approaches, improving your interpersonal skills and your ability to think divergently. That's far more valuable than just chatting with a bot. So don't be shy — talk, ask questions, and learn together!
- Yes, AI will be part of the curriculum — both as a learning tool and as a topic in itself. You'll even have the chance to build your own AI software. In order to learn more about our crescendo approach you'll go through in the documentation available on the intranet.

### ✓ **Good practice:**

I'm stuck on a new concept. I ask someone nearby how they approached it. We talk for 10 minutes — and suddenly it clicks. I get it.

### ✗ **Bad practice:**

I secretly use AI, copy some code that looks right. During peer evaluation, I can't explain anything. I fail. During the exam — no AI — I'm stuck again. I fail.

# Chapter 2

## Foreword

Here's what Wikipedia has to say about otters :

The European otter (*Lutra lutra*), also known as the Eurasian otter, Eurasian river otter, common otter and Old World otter, is a European and Asian member of the Lutrinae or otter subfamily, and is typical of freshwater otters.

The European otter is a typical species of the otter subfamily. Brown above and cream below, these long, slender creatures are well-equipped for their aquatic habits. Its bones show osteosclerosis, increasing their density to reduce buoyancy.

This otter differs from the North American river otter by its shorter neck, broader visage, the greater space between the ears and its longer tail.

However, the European otter is the only otter in its range, so it cannot be confused for any other animal. Normally, this species is 57 to 95 cm (23-37 in) long, not counting a tail of 35-45 cm (14-18 in).

The female is shorter than the male.

The otter's average body weight is 7 to 12 kg (15.4-26.4 lbs), although occasionally a large old male may reach up to 17 kg (37 lbs).

The record-sized specimen, reported by a reliable source but not verified, weighed over 24 kg (53 lbs).

The European otter is the most widely distributed otter species, its range including parts of Asia and Africa, as well as being spread across Europe. Though currently believed to be extinct in Liechtenstein, and Switzerland, they are now very common in Latvia, along the coast of Norway and across Great Britain, especially Shetland, where 12% of the UK breeding population exist. Ireland has the highest density of Eurasian otters in Europe.

In Italy, they can be found in southern parts of the peninsula.

The South Korean population is endangered.

Otters are cute.

# Chapter 3

## Exercise 0: GiT commit

|   |                                |             |
|---|--------------------------------|-------------|
|  | Exercise: 0                    |             |
|   |                                | GiT commit? |
|   | Directory: ex0/                |             |
|   | Files to Submit: git_commit.sh |             |
|   | Authorized: None               |             |

- Create a shell script that displays the ids of the last 5 commits of your git repository.

### Terminal Output

```
?> bash git_commit.sh | cat -e
baa23b54f0adb7bf42623d6d0a6ed4587e11412a$ 
2f52d74b1387fa80eea844969e8dc5483b531ac1$ 
905f53d98656771334f53f59bb984fc29774701f$ 
5ddc8474f4f15b3fc72d08fc3b333e19c3a27078$ 
e94d0b448c03ec633f16d84d63beaef9ae7e7be8$ 
?>
```

To test your script, we will use our own environment.



RTFM!



The first retry delay is short, do not hesitate to trigger an intermediate evaluation to measure your progres !

# Chapter 4

## Exercise 1: gitignore

|   |                                |     |
|---|--------------------------------|-----|
|  | Exercise: 1                    |     |
|   |                                | GiT |
|   | Directory: ex1/                |     |
|   | Files to Submit: git_ignore.sh |     |
|   | Authorized: None               |     |

- In this exercise, you will write a short shell script that lists all the existing files ignored by your GiT repository.

### Example

```
%> bash git_ignore.sh | cat -e
.DS_Store$  
mywork.c $  
%>
```

To test your script, we will use our own environment.



RTFM!



Get inspired by others, do not let them do your job.

# Chapter 5

## Submission and peer-evaluation

Turn in your assignment in your Git repository as usual. Only the work inside your repository will be evaluated during the defense. Don't hesitate to double check the names of your files to ensure they are correct.



You need to return only the files requested by the subject of this project.