Git Exercises:

1. Clone the repository for the class: https://github.com/BI-DS/GRA-4152
   Bash $ git clone https://github.com/BI-DS/GRA-4152.git

```
omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1
$ git clone https://github.com/BI-DS/GRA-4152.git
Cloning into 'GRA-4152'...
remote: Enumerating objects: 106, done.
remote: Counting objects: 100% (58/58), done.
remote: Compressing objects: 100% (48/48), done.
remote: Total 106 (delta 20), reused 46 (delta 10), pack-reused 48 (from 1)
Receiving objects: 100% (106/106), 25.14 KiB | 1.68 MiB/s, done.
Resolving deltas: 100% (29/29), done.
```

a. Explore the version history by visualizing it as a graph.
   Bash $ cd GRA-4152
   Bash $ git log --graph --oneline –decorate

```
omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/GRA-4152 (master)
$ git log --graph --oneline --decorate --all ✔
* dc730e8 (HEAD -> master, origin/master, origin/HEAD) adding colab notebooks
* e5c1c97 adding material lec 10
* ff60de7 adding material lecture 9
* e6ac538 material lecture 7
* b412adb adding material lecture 6
* 7e0089c adding material for lecture 6
* c26010d adding material for lec 5
* 1a4a267 adding material lecture 4
* 9222545 adding material for lecture 3
* 8b4efee adding material for lecture 3
* 71f261f added honor code
* a610fc6 adding 1 asnyc exercise from lecture 1
* 0f6036b adding 1 asnyc exercise from lecture 1
* ae45ae7 removing git_exercise.py file
* 84ed53d adding file for git exercise in lecture 2
* 37ac00f adding some py files for lecture 1
* 0fb7842 adding instructions for UML
* 20b8851 initial commit
```

b. When was the last time README.md was modified?
   Bash $ git log -1 --format=%cd README.md

```
omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/GRA-4152 (master)
$ git log -1 --format=%cd README.md
Wed Aug 31 09:59:14 2022 +0200
```

c. What was the commit message associated with the last modification to the README.md?
   Bash $ git blame README.md | head -n 1
   Bash $ git show 20b8851

```
omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/GRA-4152 (master)
$ git blame README.md | head -n 1
^20b8851 (rogelioandrade 2022-08-19 08:48:04 +0200  1) # GRA-4152 ✓

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/GRA-4152 (master)
$ git show ^20b8851

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/GRA-4152 (master)
$ git show 20b8851
commit 20b88515dc1668bed7942359e3ad183f51961f62   ✓
Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
Date:   Fri Aug 19 08:48:04 2022 +0200

    initial commit

diff --git a/.gitignore b/.gitignore
new file mode 100644
index 0000000..6d471e7
--- /dev/null
+++ b/.gitignore
@@ -0,0 +1 @@
+Book/
diff --git a/README.md b/README.md
new file mode 100644
index 0000000..6e3baea
--- /dev/null
+++ b/README.md
@@ -0,0 +1,2 @@
+# GRA-4152
+This repository contains different materials used throughout the course, e.g. examples shown in lectures, suggested solutions for homework, problems discussed in
tory frequently, as different materials will become available as we cover them in the course.

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/GRA-4152 (master)
$ 
```

3.

Clone some repository from GitHub and modify one of its existing files.
   a. What happens when you type git stash?
   b. What do you see when running git log --all --oneline?
   c. Run git stash pop to undo what you did with git stash. In what scenario might this be useful?
   d. List your current stashes and delete them with git stash drop <stash_id>

   1. Git stash code. Saves my changes
   2. **git log –all – oneline** → displays a list of all commits with their hashes.
   3. "git stash pop" →applies stashed changes back to my working directory and removes them from the stash list. Usefule for resuming work after handling a task on other branch

```
omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git add .

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git commit -m "Add new test file in chap 1"
[master 20a6c2c] Add new test file in chap 1
 1 file changed, 1 insertion(+)
 create mode 100644 data/test.py

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git stash
Saved working directory and index state WIP on master: 20a6c2c Add new test file in chap 1

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git log --all --oneline
550e451 (refs/stash) WIP on master: 20a6c2c Add new test file in chap 1
25d768c index on master: 20a6c2c Add new test file in chap 1
20a6c2c (HEAD -> master) Add new test file in chap 1
a66be39 (origin/master, origin/HEAD) Update chs. 08-10.
c46d649 Updates chs. 01-07.
d1dc3b1 Correction code ch. 10.
4b77341 Updates chapter 6.
4f7f182 Added sample cfg file.
51eeb1d Initial commit.

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git stash pop
On branch master
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)

Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        deleted:    data/test.py

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        ch01/test.py

no changes added to commit (use "git add" and/or "git commit -a")
Dropped refs/stash@{0} (550e451160d480447899b5d1e62635f600ea6340)

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git stash "test.py"
fatal: subcommand wasn't specified; 'push' can't be assumed due to unexpected token 'test.py'

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git stash "ch01/test.py"
fatal: subcommand wasn't specified; 'push' can't be assumed due to unexpected token 'ch01/test.py'

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git stash list
```

```
omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git stash pus -m "test"
fatal: subcommand wasn't specified; 'push' can't be assumed due to unexpected token 'pus'

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git stash push -m "test"
Saved working directory and index state On master: test

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git stash list
stash@{0}: On master: test

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ git stash drop stash@{0}
Dropped stash@{0} (37500b8bbff5e51312ffcb782c59bd336663e4ba)

omar_@LAPTOP-0DDV05U0 MINGW64 ~/OneDrive/Skrivebord/Masters in Quant Finance/1. Fall Smester 2024/GRA 4152 Python OOP/Excercises/Excercise_1/py4at (master)
$ 
```

4. Create a new branch in your class repository (https://github.com/ SXXXXXXX/GRA4152) and call it my_test_branch.
   a. Explore both branches, by switching back and forth.
   b. Add a comment or a line in any file in the branch my_test_branch. Then add such a change and commit.
   c. Finally, merge my_test_branch into master.

```
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1> git clone https://github.com/S1616380/GRA4152.git
Cloning into 'GRA4152'...
remote: Enumerating objects: 109, done.
remote: Counting objects: 100% (109/109), done.
remote: Compressing objects: 100% (73/73), done.
remote: Total 109 (delta 29), reused 109 (delta 29), pack-reused 0 (from 0)
Receiving objects: 100% (109/109), 25.32 KiB | 2.81 MiB/s, done.
Resolving deltas: 100% (29/29), done.
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1> cd .\GRA4152\
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git checkout -b my_test_branch
Switched to a new branch 'my_test_branch'
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git checkout master
branch 'master' set up to track 'origin/master'.
Switched to a new branch 'master'
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git checkout my_test_branch
Switched to branch 'my_test_branch'
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git checkout my_test_branch
Switched to branch 'my_test_branch'
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> gitt add "TEST2.py"
gitt : The term 'gitt' is not recognized as the name of a cmdlet, function, script file, or operable program. Check the spelling of the name, or if a path was included, verify that the path is
correct and try again.
At line:1 char:1
+ gitt add "TEST2.py"
+ ~~~~
    + CategoryInfo          : ObjectNotFound: (gitt:String) [], CommandNotFoundException
    + FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> code "TEST2.py"
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git add .\TEST2.py
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git commit -m "cretaed a line"
[my_test_branch 97948eb] cretaed a line
 1 file changed, 1 insertion(+)
 create mode 100644 TEST2.py
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git merge my_test_branch
fatal: refusing to merge unrelated histories
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git merge my_test_branch --allow-unrelated-histories
Auto-merging README.md
CONFLICT (add/add): Merge conflict in README.md
Automatic merge failed; fix conflicts and then commit the result.
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git add .
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git merge my_test_branch
fatal: You have not concluded your merge (MERGE_HEAD exists).
Please, commit your changes before you merge.
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git add .
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git commit -m "forced them both"
[master 1ab77d0] forced them both
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git checkout master
Already on 'master'
```

```
Your branch is ahead of 'origin/master' by 3 commits.
  (use "git push" to publish your local commits)
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git merge ,y_test_branch
merge: y_test_branch - not something we can merge
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152> git merge my_test_branch
Already up to date.
PS C:\Users\omar_\OneDrive\Skrivebord\Masters in Quant Finance\1. Fall Smester 2024\GRA 4152 Python OOP\Excercises\Excercise_1\GRA4152>
```

5. Fork the class repository (https://github.com/BI-DS/GRA-4152). After you have a copy of the class repository, clone it to your local computer. In that way you can make local changes to the existing class repository.
   a. Send me a pull request to add a text file with your student id, i.e. SXXXXXXX.txt.