Assignment – 1

1. Cloning and exploring the class repository:

   a) Explore the version history by visualizing it as a graph.

   The graphical illustration provided by git looks like this and I use the commands git log –graph –all to get a full graphical illustration of the history.

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ 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
Receiving objects: 100% (106/106), 25.14 KiB | 5.03 MiB/s, done.
Resolving deltas: 100% (29/29), done.

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ cd GRA-4152

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst
2023/GRA4152/GRA-4152 (master)
$ git log --graph --all
* commit dc730e88e9e4ad1cf94c0511b50d4d3135eb7383 (HEAD -> master,
origin/master, origin/HEAD)
| Author: A1910329 <rogelio.mancisidor@gmail.com>
| Date:   Wed Oct 26 12:48:02 2022 +0200
|
|     adding colab notebooks
|
* commit e5c1c97fa8aaeb1f3c377a1ecb403d16140212d5
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Oct 26 11:54:47 2022 +0200
|
|     adding material lec 10
|
* commit ff60de77f3c18f8d0a8ee3b6918cd4db24bdf721
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Oct 19 11:19:43 2022 +0200
|
|     adding material lecture 9
|
* commit e6ac53804aaa4bdcac8561c891e3013a8868de3c
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Oct 5 11:32:15 2022 +0200
|
|     material lecture 7
|
* commit b412adb63d22c9f1129f195db9cdbbc63f945fe3
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Sep 28 11:49:30 2022 +0200
|
|     adding material lecture 6
|
* commit 7e0089cd9e1ab59478521d31b15867377b54008f
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Sep 28 11:06:03 2022 +0200
|
|     adding material for lecture 6
|
* commit c26010d5096e570018e4328672c45e7d54cddc69
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Sep 21 11:10:38 2022 +0200
```

```
:...skipping...
* commit dc730e88e9e4ad1cf94c0511b50d4d3135eb7383 (HEAD -> master,
origin/master, origin/HEAD)
| Author: A1910329 <rogelio.mancisidor@gmail.com>
| Date:   Wed Oct 26 12:48:02 2022 +0200
|
|     adding colab notebooks
|
* commit e5c1c97fa8aaeb1f3c377a1ecb403d16140212d5
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Oct 26 11:54:47 2022 +0200
|
|     adding material lec 10
|
* commit ff60de77f3c18f8d0a8ee3b6918cd4db24bdf721
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Oct 19 11:19:43 2022 +0200
|
|     adding material lecture 9
|
* commit e6ac53804aaa4bdcac8561c891e3013a8868de3c
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Oct 5 11:32:15 2022 +0200
|
|     material lecture 7
|
* commit b412adb63d22c9f1129f195db9cdbbc63f945fe3
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Sep 28 11:49:30 2022 +0200
|
|     adding material lecture 6
|
* commit 7e0089cd9e1ab59478521d31b15867377b54008f
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Sep 28 11:06:03 2022 +0200
|
|     adding material for lecture 6
|
* commit c26010d5096e570018e4328672c45e7d54cddc69
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Sep 21 11:10:38 2022 +0200
|
|     adding material for lec 5
|
* commit 1a4a2672f3ec0b08042a76cc54654619254a0204
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Sep 14 11:34:12 2022 +0200
|
|     adding material lecture 4
|
* commit 9222545035a3bad8eec2c70774d6fad07066e113
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
:...skipping...
* commit dc730e88e9e4ad1cf94c0511b50d4d3135eb7383 (HEAD -> master,
origin/master, origin/HEAD)
| Author: A1910329 <rogelio.mancisidor@gmail.com>
| Date:   Wed Oct 26 12:48:02 2022 +0200
|
|     adding colab notebooks
|
* commit e5c1c97fa8aaeb1f3c377a1ecb403d16140212d5
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Oct 26 11:54:47 2022 +0200
|
|     adding material lec 10
|
* commit ff60de77f3c18f8d0a8ee3b6918cd4db24bdf721
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Oct 19 11:19:43 2022 +0200
|
|     adding material lecture 9
|
```

```
* commit e6ac53804aaa4bdcac8561c891e3013a8868de3c
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Oct 5 11:32:15 2022 +0200
|
|     material lecture 7
|
* commit b412adb63d22c9f1129f195db9cdbbc63f945fe3
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Sep 28 11:49:30 2022 +0200
|
|     adding material lecture 6
|
* commit 7e0089cd9e1ab59478521d31b15867377b54008f
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Sep 28 11:06:03 2022 +0200
|
|     adding material for lecture 6
|
* commit c26010d5096e570018e4328672c45e7d54cddc69
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Sep 21 11:10:38 2022 +0200
|
|     adding material for lec 5
|
* commit 1a4a2672f3ec0b08042a76cc54654619254a0204
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Wed Sep 14 11:34:12 2022 +0200
|
|     adding material lecture 4
|
* commit 9222545035a3bad8eec2c70774d6fad07066e113
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Tue Sep 6 14:08:22 2022 +0200
|
|     adding material for lecture 3
|
* commit 8b4efee00f04d5b3e7a4cc29269168556a9a28ad
| Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
| Date:   Tue Sep 6 11:02:01 2022 +0200
|
|     adding material for lecture 3
```

b) When was the last time README.md was modified?

The last time README.md was edited was on August 31 2022 at time 09:59:14 and a honor code was added.

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst
2023/GRA4152/GRA-4152 (master)
$ git log -1 "C:/Users/135105stla/Documents/Master Høst 2023/GRA4152/GRA-
4152/README.md"
commit 71f261f8dbb09c828dfd2be1ad664a14b1fbc498
Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
Date:   Wed Aug 31 09:59:14 2022 +0200

    added honor code
```

c) What was the commit message associated with the last modification to the
    README.md?

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst
2023/GRA4152/GRA-4152 (master)
$ git blame "C:/Users/135105stla/Documents/Master Høst 2023/GRA4152/GRA-
4152/README.md"
^20b8851 (rogelioandrade 2022-08-19 08:48:04 +0200  1) # GRA-4152
0fb7842d (rogelioandrade 2022-08-22 08:50:07 +0200  2) This repository contains
different materials used throughout the course, e.g. exampleslectures, suggestd
solutions for homework, problems discussed in tutorial sessions, etc. You
should follow this repository frequently, as diferials will become available as
we cover th
0fb7842d (rogelioandrade 2022-08-22 08:50:07 +0200  3)
0fb7842d (rogelioandrade 2022-08-22 08:50:07 +0200  4) ## Packages
0fb7842d (rogelioandrade 2022-08-22 08:50:07 +0200  5) Unified Modeling
Language (UML) is a tool to visualize the design, or architecture, of software
systems. Just like classes in OOP. We can generate UML diagrams for `Python`
classes using the library `pylint`, which uses `graphverate `png` or `pdf`
files showing the architecture of a given class.
0fb7842d (rogelioandrade 2022-08-22 08:50:07 +0200  6) ```bash
0fb7842d (rogelioandrade 2022-08-22 08:50:07 +0200  7) pip install pylint
0fb7842d (rogelioandrade 2022-08-22 08:50:07 +0200  8) sudo apt install
graphviz
0fb7842d (rogelioandrade 2022-08-22 08:50:07 +0200  9) pyreverse -o png <your
code>.py
0fb7842d (rogelioandrade 2022-08-22 08:50:07 +0200 10) ```
71f261f8 (rogelioandrade 2022-08-31 09:59:14 +0200 11)
71f261f8 (rogelioandrade 2022-08-31 09:59:14 +0200 12) ## Honor Code
71f261f8 (rogelioandrade 2022-08-31 09:59:14 +0200 13) You are free to form
study groups and may discuss homework in groups. However, each st write down
the solutions and code from scratch independently and must understand the
solution well enough. It is a honor code violation to c to, or look at written
or code solutions from a previous year or solutions posted online (inspired by
the Stanford Honor Code).
71f261f8 (rogelioandrade 2022-08-31 09:59:14 +0200 14)
```

And using git show show "Commit hash", I get the last message added. The commit hash
could be found in task (b).

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst
2023/GRA4152/GRA-4152 (master)
$ git show 71f261f8dbb09c828dfd2be1ad664a14b1fbc498
commit 71f261f8dbb09c828dfd2be1ad664a14b1fbc498
Author: rogelioandrade <rogelio.a.mancisidor@bi.no>
Date:   Wed Aug 31 09:59:14 2022 +0200

    added honor code

diff --git a/README.md b/README.md
index a7359ae..a404da3 100644
--- a/README.md
+++ b/README.md
@@ -8,3 +8,7 @@ pip install pylint
 sudo apt install graphviz
 pyreverse -o png <your code>.py

+
+## Honor Code
+You are free to form study groups and may discuss homework in groups. However,
each student must write down the solutions and code from scrandently and must
understand the solution well enough. It is a honor code violation to copy,
refer to, or look at written or code solutions frous year or solutions posted
online (inspired by the Stanford Honor Code).
+
```

2. Git mistakes:
   a) Add a .gitignore file

   First I check the working directory, I see that I am not in my master directory so I switch back to that directory. Then I use "touch" to create the file and after I push it to my github repository.

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst
2023/GRA4152/GRA-4152 (master)
$ pwd
/c/Users/135105stla/Documents/Master Høst 2023/GRA4152/GRA-4152

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst
2023/GRA4152/GRA-4152 (master)
$ cd "C:/Users/135105stla/Documents/Master Høst 2023/GRA4152"

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ pwd
/c/Users/135105stla/Documents/Master Høst 2023/GRA4152

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ touch .gitignore

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ git add .gitignore

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ git commit -m "Added a gitignore file"
[master 7458fdd] Added a gitignore file
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 .gitignore

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ git push origin master
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (2/2), 248 bytes | 248.00 KiB/s, done.
Total 2 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/S1032519/GRA4152.git
   e07b0cd..7458fdd  master -> master
```

   Next I create a foo.py file and use .gitignore to ignore the file and hence it will be "stored" in the .gitignore file on github.

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ touch foo.py

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ echo "foo.py" > .gitignore

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ git add .gitignore
warning: in the working copy of '.gitignore', LF will be replaced by CRLF
the next time Git touches it

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
```

```
$ git commit -m "foo.py now in gitignore"
[master f42d1a2] foo.py now in gitignore
 1 file changed, 1 insertion(+)

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ git push origin master
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 287 bytes | 287.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/S1032519/GRA4152.git
   7458fdd..f42d1a2  master -> master
```

3. Cloning repository and change existing files:

First I clone my GRA repository from github and make a change to the README.md file (manually open it and writes x in the notepad), then saving the file.

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ git clone "https://github.com/S1032519/GRA4152.git"
Cloning into 'GRA4152'...
remote: Enumerating objects: 12, done.
remote: Counting objects: 100% (12/12), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 12 (delta 0), reused 12 (delta 0), pack-reused 0
Receiving objects: 100% (12/12), done.

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ cd "^[[200~"""
bash: cd: $'\E[200~': No such file or directory

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ cd "C:/Users/135105stla/Documents/Master Høst 2023/GRA4152/GRA4152"
```

a) What happens when you type git stash?

This happens when I type git stash. Although I made changes to the README.md file…

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst
2023/GRA4152/GRA4152 (master)
$ git stash
Saved working directory and index state WIP on master: f42d1a2 foo.py now in
gitignore
```

b) What do you see when running git log –all –online?

I get all the changes I have made.

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst
2023/GRA4152/GRA4152 (master)
$ git log --all --oneline
949662b (refs/stash) WIP on master: f42d1a2 foo.py now in gitignore
cc02fca index on master: f42d1a2 foo.py now in gitignore
f42d1a2 (HEAD -> master, origin/master, origin/HEAD) foo.py now in gitignore
7458fdd Added a gitignore file
e07b0cd initial commit
290e395 Remove README.md
c6c9d11 initial commit
```

c) Running git stash pop

It drops the stashed items and show an overview of which changes that has not been staged for commit. This could be helpful if you stashed something by mistake.

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst
2023/GRA4152/GRA4152 (master)
$ git stash pop
On branch master
Your branch is up to date with 'origin/master'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   README.md

no changes added to commit (use "git add" and/or "git commit -a")
Dropped refs/stash@{0} (949662be76e35eddd4a847bdd09b287442f3b0c1)
```

d) List your current stashes and delete them with git stash drop <stash_id>

Does not look like I have anything stashed that is because the one stash was dropped in task (c)

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst
2023/GRA4152/GRA4152 (master)
$ git stash list

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst
2023/GRA4152/GRA4152 (master)
$
```

Next I modify the README.md file again.

And try to push it to my github. When I push it to github from the cloned working directory and then my NAME shows in github so I just deleted this folder and went to my master and pushed the README.md file again from there and then My S-number shows in GitHub instead. Since I do not have time to figure out what happens I will stop this task here.

4. Creating new branch:

   First I create a new branch.

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ git checkout -b my_test_branch
Switched to a new branch 'my_test_branch'
```

a) Switching and exploring branches

   I have two branches one master branch and one "my_test_branch" branch.

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(my_test_branch)
$ git branch
  master
* my_test_branch

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(my_test_branch)
$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
```
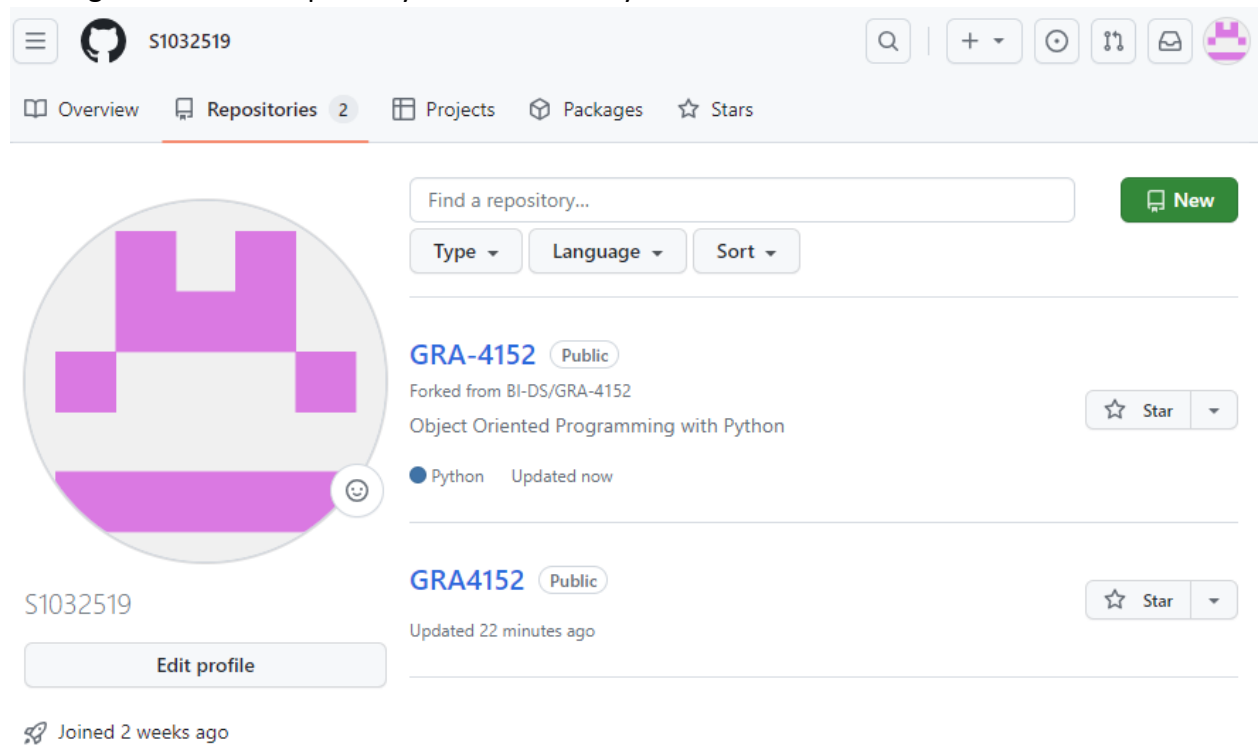
b)

c) Merging branches:

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ git checkout master
Already on 'master'
Your branch is up to date with 'origin/master'.

Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ git merge my_test_branch
Already up to date.
```

5. Forking class repository:

First I go to the class repository and fork it to my account which now looks like this:

Next, I clone it to my local computer:

```
Z44+135105stla@135105-PF3AD2WW MINGW64 ~/Documents/Master Høst 2023/GRA4152
(master)
$ git clone "https://github.com/S1032519/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
Receiving objects: 100% (106/106), 25.14 KiB | 4.19 MiB/s, done.
Resolving deltas: 100% (29/29), done.
```

However I am afraid that if I try to make changes in this repository and push it to github then my NAME will show again as in task 3 because it seems like if I push something when I am not in the working directory of my master branch it automatically changes git settings to the computer settings which the shows my name.

Master directory: C:\Users\135105stla\Documents\Master Høst 2023\GRA4152
Cloned directory: C:\Users\135105stla\Documents\Master Høst 2023\GRA4152\GRA-4152