

Lab 1: Arithmetic in Python

SUNY Korea - Francois Rameau

$$I_o \left(\sqrt{\frac{4K(1+K)}{p_{sf}}} p_g \right)$$

$$21 = (A + \eta)^2 + \kappa^2 \text{ and}$$

GitHub Classroom



Lab 1 - Arithmetic in python

Preliminaries

Write your first executable program !

1. Create a python file

Use your favorite editor (VSCode, Notepad++, etc.) and create a python file “Hello.py”. And save it at the location you like.



2. Write your code

In the first line, type the following:

```
print("Hello world.")
```

Save and exit



3. Run your code

Execute by typing this command in the terminal:

```
python hello.py
```



Preliminaries

You can also replace this line with a more complex code!

```
num = 10 # You can change this later
other_num = num * 4
print(other_num)
print(num)
print(str(num))
# Not a very useful code, though
```

What are the '#' symbols?

- Comments!
- Use as often as you can: in-code documentation is a very good habit

What does the 'str(...)' code do?

- That's a conversion-to-string code
- It's used to convert the given data into a string
- What happens if we don't use str(...) ?

Quadratic equation

- Do you remember the solution to a quadratic equation?

$$ax^2 + bx + c = 0$$


$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

- The solution of x is expressed as a combination of values: a, b, c
- That means we can write a program that can automatically calculate this, given those three values!

Task 1

- Complete the first part of quad.py
 - Need to fill in the ellipsis (...) to implement the quadratic formula
 - Remember there are two roots!
- Conditions
 - You must **only** use arithmetic operators
 - Do **not** use anything we haven't learned in class yet. That qualifies as a 0.
 - Do **not** change anything besides the two lines you're supposed to add

Task 2

- Let's do division (for kids)
- When you divide two numbers, you get a quotient and a remainder
 - $3 / 2$ is 1 with remainder 1
 - $10 / 3$ is 3 with remainder 1
 - $1 / 4$ is ...?
- In this task, you are to declare two variables x and y
 - Initialize them to whatever **positive** values you like
 - You should compute a quotient and a remainder
 - E.g., for $x = 10$ and $y = 3$, the output should look like this:
- Same conditions as task 1
- Fill in quad.py's second part
 - Submit quad.py to Github Classroom when you're done (due the end of tonight)
 - You may leave if you're done

- Git clone / commit / push -



GitHub Classroom



Lab 1 - Arithmetic in python

1. Accept the GitHub invitation



You're ready to go!

You accepted the assignment, **Lab 1 - Arithmetic in python**.

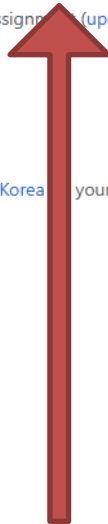
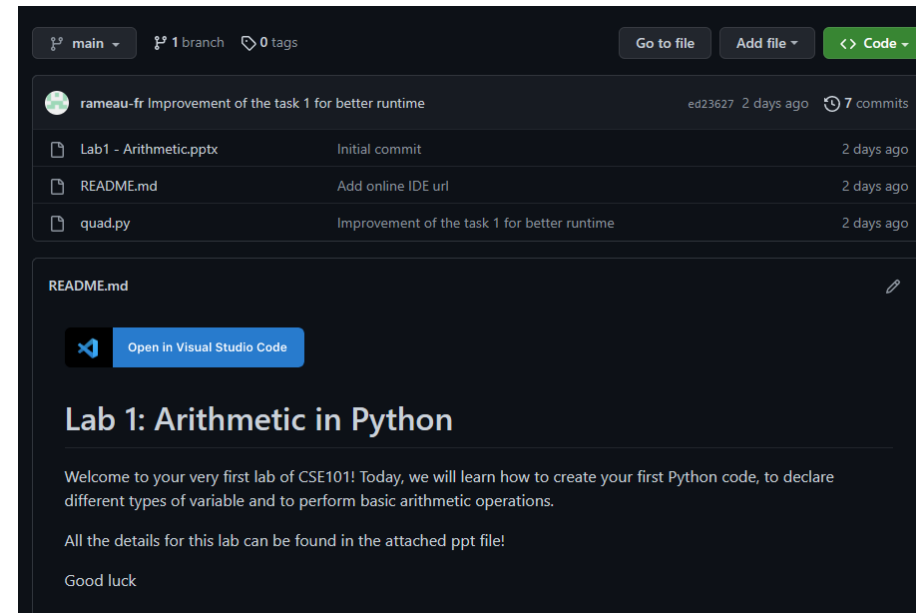
Your assignment repository has been created:

<https://github.com/SUNKorea/lab-1---arithmetic-in-python-rameau-fr>

We've configured the repository associated with this assignment (update).



Note: You may receive an email invitation to join [SUNKorea](#) on your behalf. No further action is necessary.



If you click on the link we can see the content of the repository


1. Clone the github repository



You're ready to go!

You accepted the assignment, **Lab 1 - Arithmetic in python**.

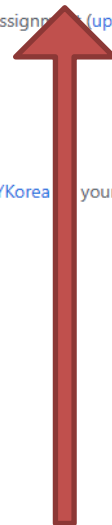
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Copy this link

1. Clone the github repository

1. Create a folder called “CSE101” somewhere in your computer
2. Run VSCode
3. Press Ctrl + ` Or press View/Terminal to open a terminal in VSCode
4. Go to the folder you created by typing

```
cd path_to_folder
```

5. Now clone the git repository

```
git clone repository_link
```

(let's say the folder is located in C:\Users\DELL\Documents\Code\CSE101)

I will type: cd C:\Users\DELL\Documents\Code\CSE101

Note that you do not need to recreate a new folder for each new assignments/lab since the clone function directly create sub directories

1. Clone the github repository

Here is what you should get

```
PS C:\Users\DELL\Documents\Code\CSE101> git clone https://github.com/SUNYKorea/lab-1---arithmetic-in-python-rameau-fr
Cloning into 'lab-1---arithmetic-in-python-rameau-fr'...
remote: Enumerating objects: 23, done.
remote: Counting objects: 100% (23/23), done.
remote: Compressing objects: 100% (19/19), done.
remote: Total 23 (delta 11), reused 11 (delta 4), pack-reused 0Receiving objects: 43% (10/23), 2.00 MiB | 3.98 MiB/s
Receiving objects: 100% (23/23), 2.07 MiB | 4.08 MiB/s, done.
Resolving deltas: 100% (11/11), done.
```

Now go to the folder you have cloned in VSCode → File/Open Folder and Select the folder lab1---arithmetic-in-python-yourgitaccount

2. Time to code

Code whatever you want

```
a = 1
b = -3
c = 1

x1 = ...
x2 = ...
print("First root:" + str(x1))
print("Second root:" + str(x2))
```



We modified this line

```
a = 1
b = -3
c = 1

x1 = a - b
x2 = ...
print("First root:" + str(x1))
print("Second root:" + str(x2))
```

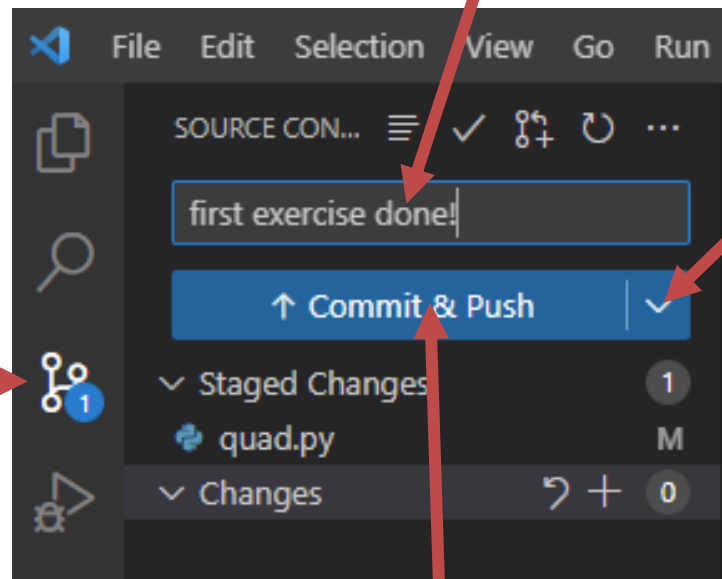
You can test your code by writing in the terminal

```
python my_code.py
```

3. Commit and push

2. Write the message corresponding to your new commit

1. Press on Source Control



3. Select "Commit & Push"

Press the button "Commit & Push"


Verify



You're ready to go!

You accepted the assignment, **Lab 1 - Arithmetic in python**.

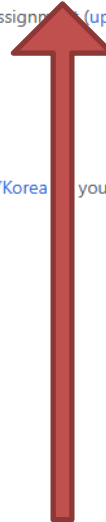
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Now you can go back to the repository to see if your changes have been uploaded