How to use notebooks

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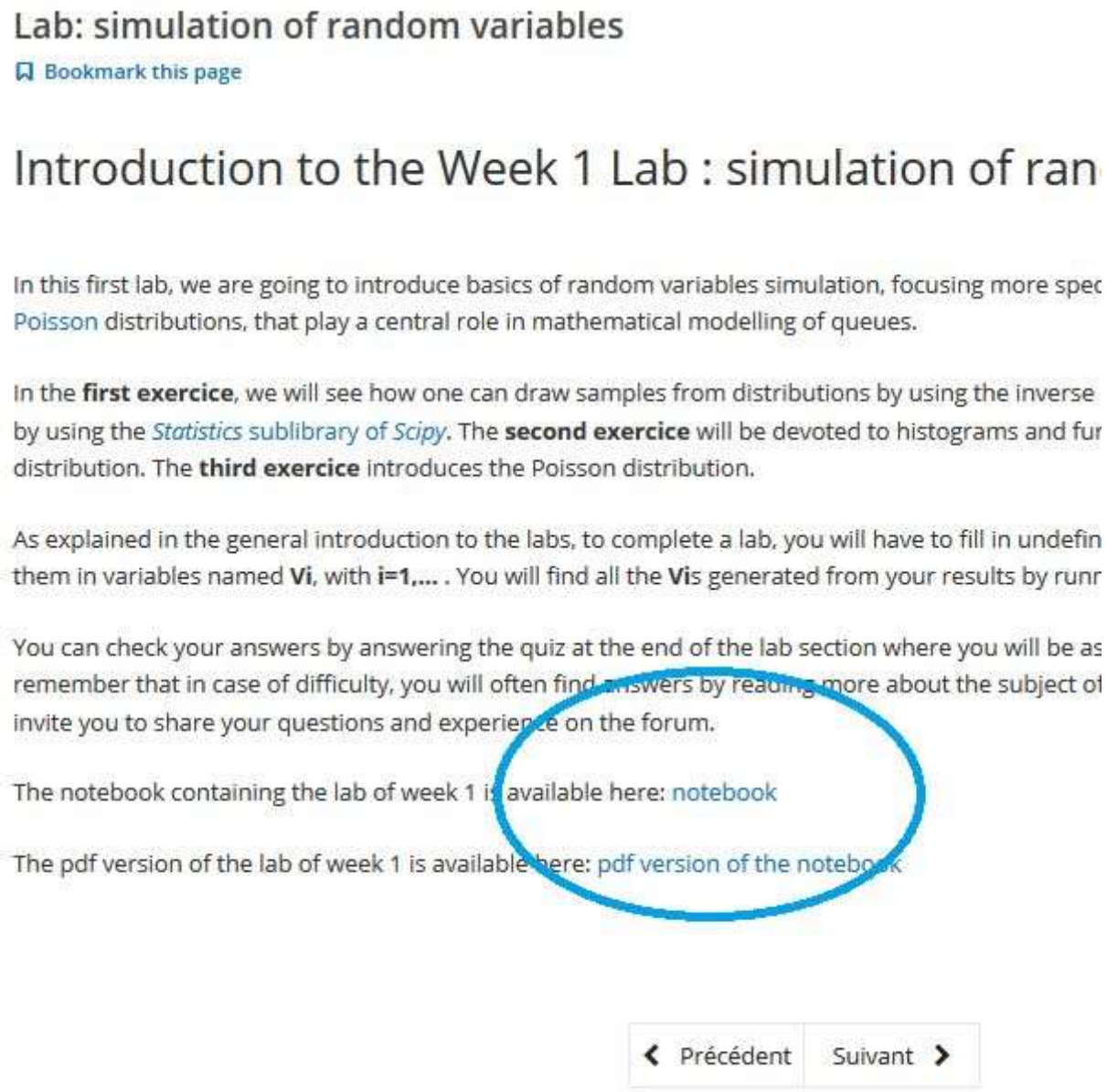
Getting the notebooks

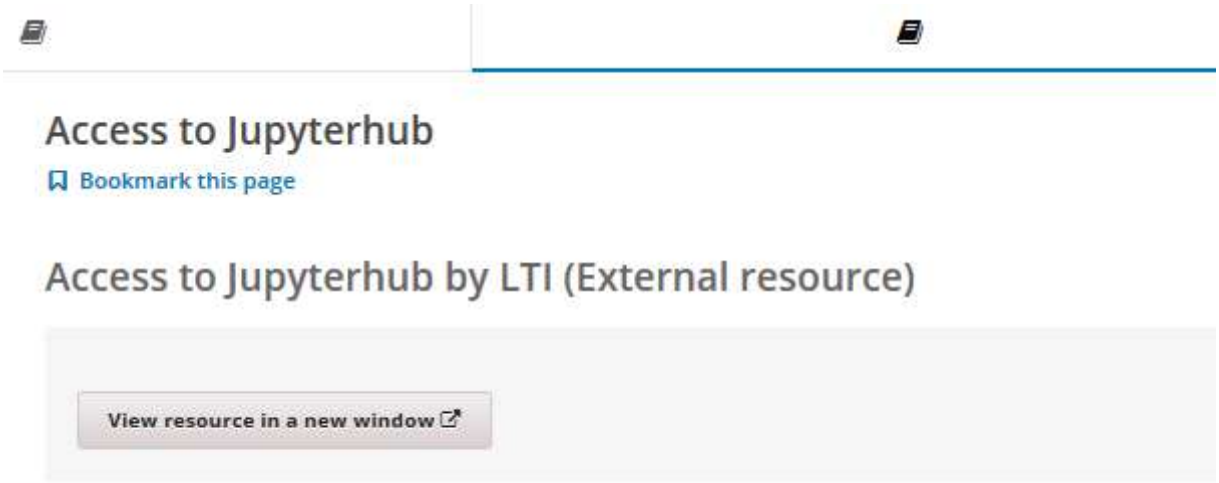
1/ At the end of each week, in the Lab section, you will be provided with a notebook you can download to your computer and save locally.



2/ You have to then open this notebook either by using a Python toolchain on your own machine or we offer you the possibility to connect directly on our Jupyterhub server at Institut Mines Telecom. This will permit you to work

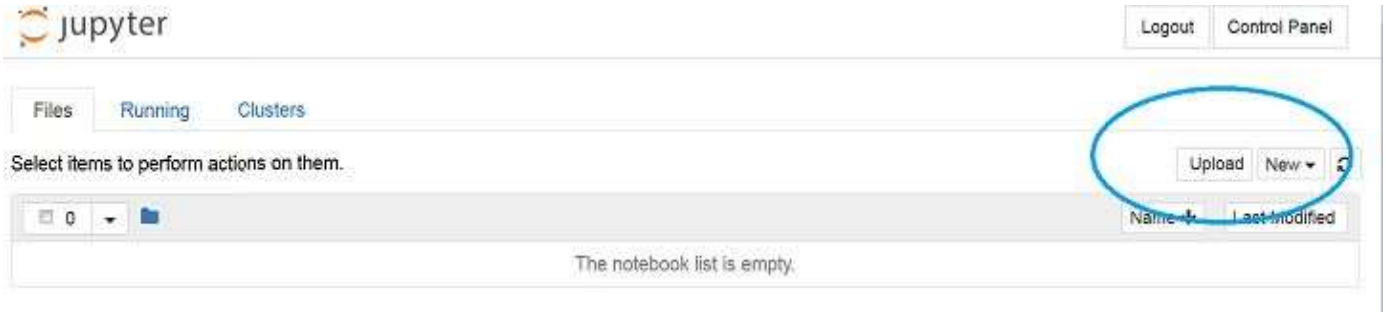
remotely through a web interface without installing any additional software on your computer. Connecting to the Jupyterhub server is probably the easiest way to operate the notebooks.

3/ You will be invited to access Jupyterhub in each Lab and it will look like this :



This will set up a connexion to the server and you will be able to work with your notebooks on the server in this new window.

4/ You then have to upload your notebook on the server by clicking on the "Upload" button to browse for the file to upload. You can also create a new Python3 notebook if you wish.



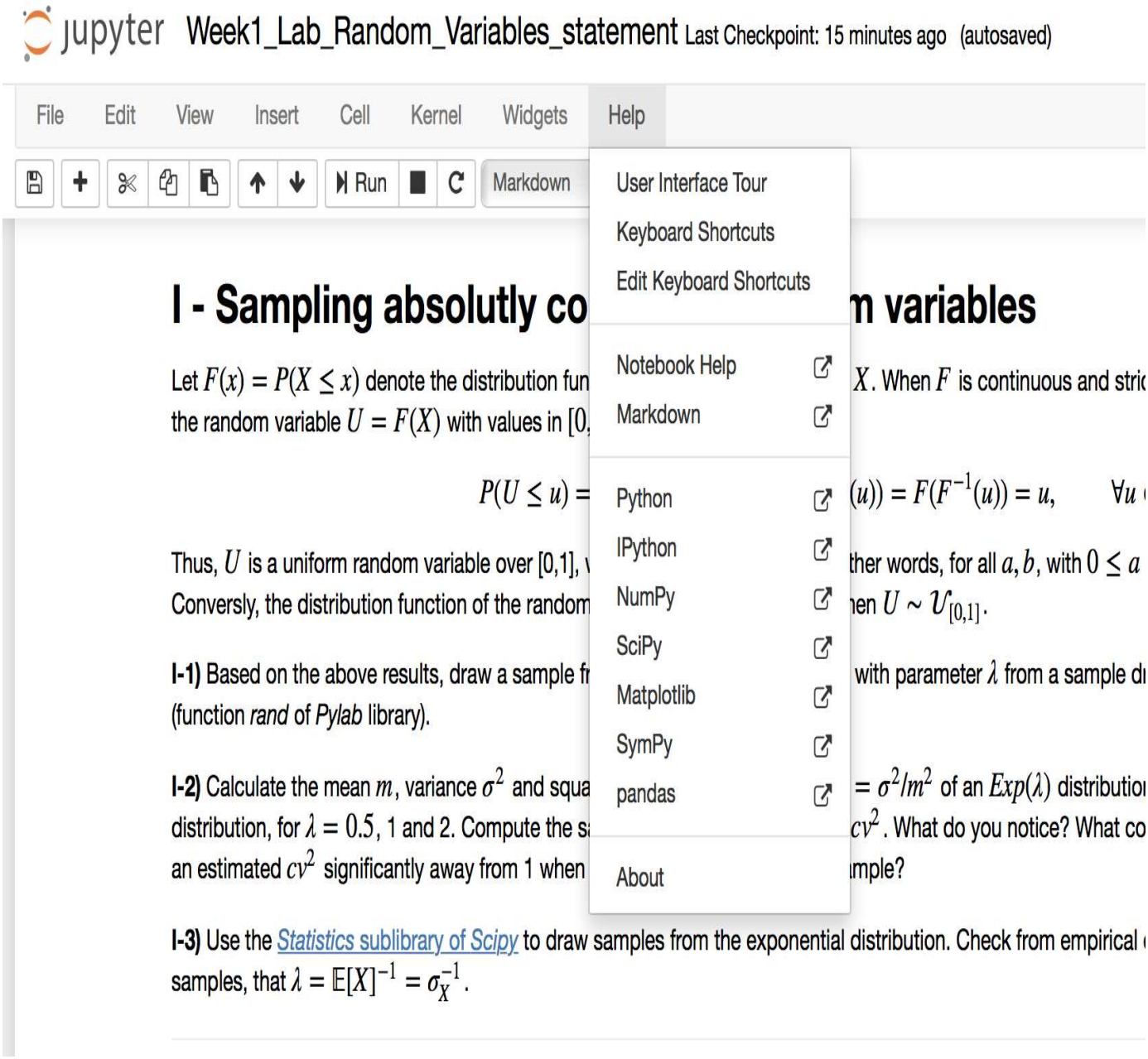
5/ Once you've done all this, your screen should look something like this and you can click on the notebook to begin working !

Do not forget to save your work regularly (File/Save and Checkpoint). Please keep in mind that although your work is normally saved on the server for the time of the MOOC session, it is safer to save a copy of your notebook on your own computer from time to time.

Note also that for privacy considerations nobody else but you will consult the notebooks that you create or edit on the server, except if the network administrator detects undue use from your account such as hacking attempts. Notebooks will be destroyed after the end of the session.

Using the notebooks

1/ A notebook is made of cells. We are going to use two types of cells: text cells (that accept Markdown syntax) and code cells (that contain Python code). Both kinds of cells can be edited and executed. In order to execute a cell, for example a Python code cell, you just have to click on that cell and type Shift+Enter or Ctrl+Enter. Alternatively you can execute cells from the menu bar. You can insert new cells, delete cells, and edit cells. In order to edit a Markdown cell you first have to double click on it. More information on notebook commands is available from the Help menu.



Please note that the Python code cells of the notebook should be executed sequentially. Indeed some cells depend on variables which are defined in previous ones.

2/ The goal of the Labs is to fill in the partially complete code with the few undefined variables and check that the code works. Places where code must be completed are indicated between lines of hash symbols. Dots '...' should be replaced by your answer, as in the following code snippet

```
lambda_ = 1. # we note lambda_ because lambda is a reserved word in Python
#######################################
# Supply coefficient c for the following line of code herein below
c       = ...
x       = c* log(rand())
#######################################
print('sample of an Exp({0}) distribution: {1:.3f}'.format(lambda_,x))

#--------
V1 = c
```

3/ The code generates values Vi, with i=1,... that depend on your inputs. At the end of the notebook, you will get a record of these variables, in the final cell entitled “Your answers to the quiz”.

Your answers for the quiz

In [ ]:
```
print("---------------------------\n"
      +"RESULTS SUPPLIED FOR LAB 1:\n"
      +"---------------------------")
results = ("V"+str(k) for k in range(1,9))
for x in results:
    try:
        print(x+" = {0:.2f}".format(eval(x)))
    except:
        print(x+": variable is undefined")
```

4/ You will have to use these values to fill in an exercise at the end of the lab section.

Note that the Vis sometimes do not represent any meaningful parameter for the exercise under consideration but are simply computed to check your code. In case of difficulty, you will often find answers by reading more about the subject of focus in the lab.

5/ If you have any problems, we also invite you to share your questions and experience on the forum, which you'll find immediately after the results section in the course

V8

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NEED ANY HELP?

Ask your questions about this specific section and lesson below! We encourage you to answer each other's questions. One of the best ways to reinforce your own knowledge of a topic is to explain it to someone else!

Discussions about Lab 1

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Lab 1

Please ask your questions about Lab 1 here. We're here to help !

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