BASIC PYTHON

Step by step

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BASIC PYTHON

Using Jupyter

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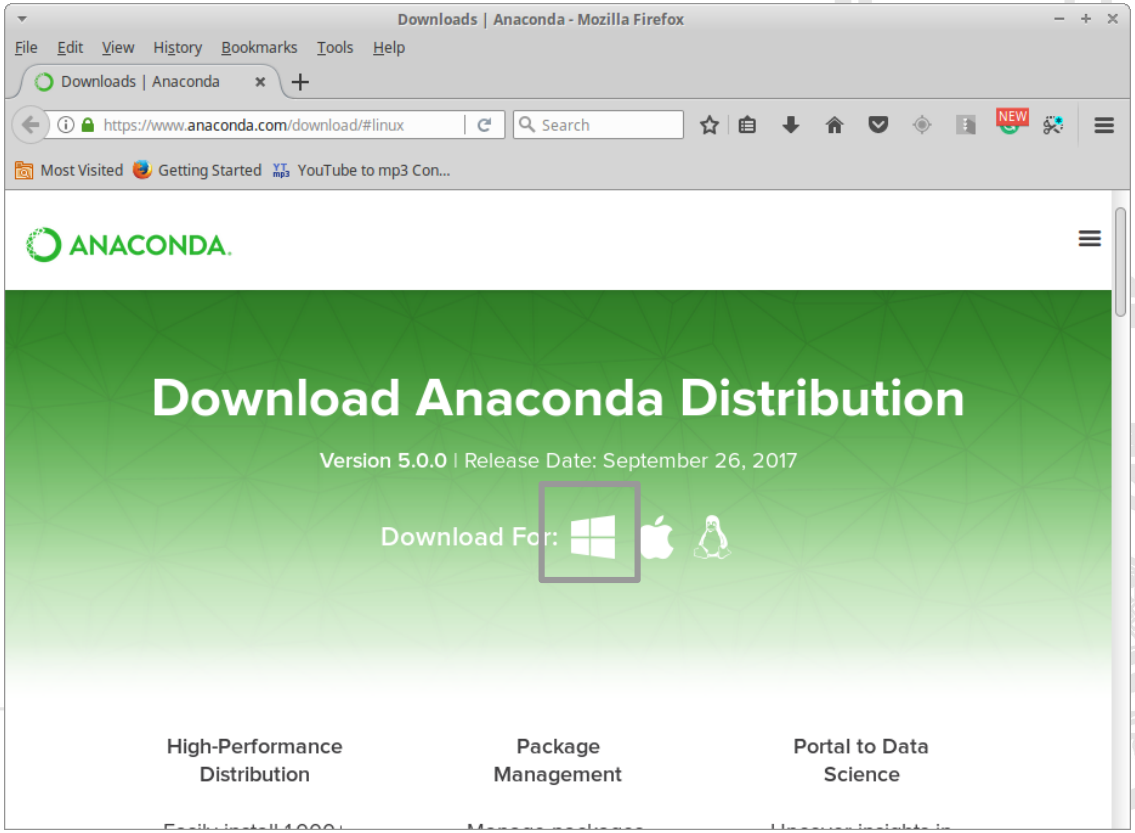
Python

- **Python** is a widely used high-level programming language for general-purpose programming, created by *Guido van Rossum* and first released in *1991*.
- **Python** is a programming language that lets you work more quickly and integrate your systems more effectively.

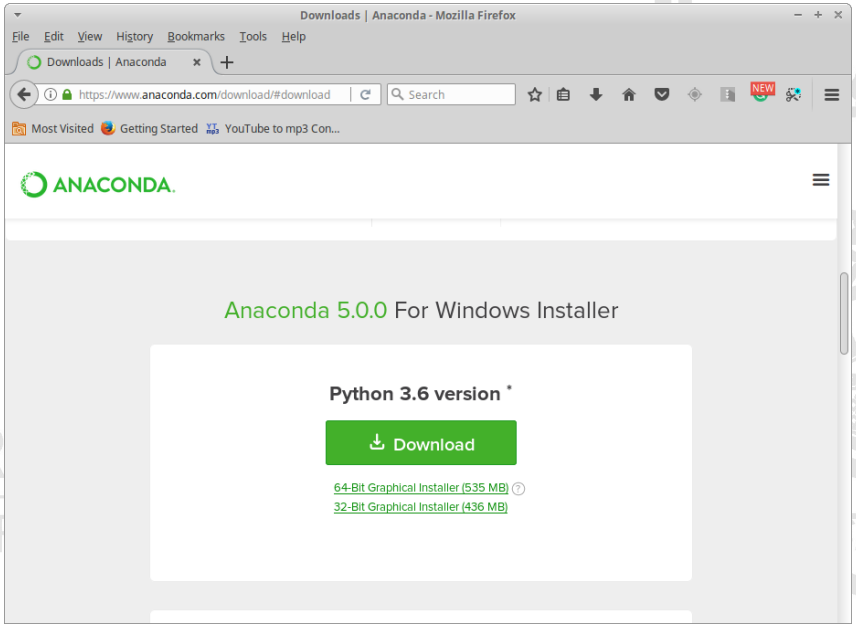
Download Python program

- Using a third party called *Anaconda*
  - https://www.anaconda.com/download



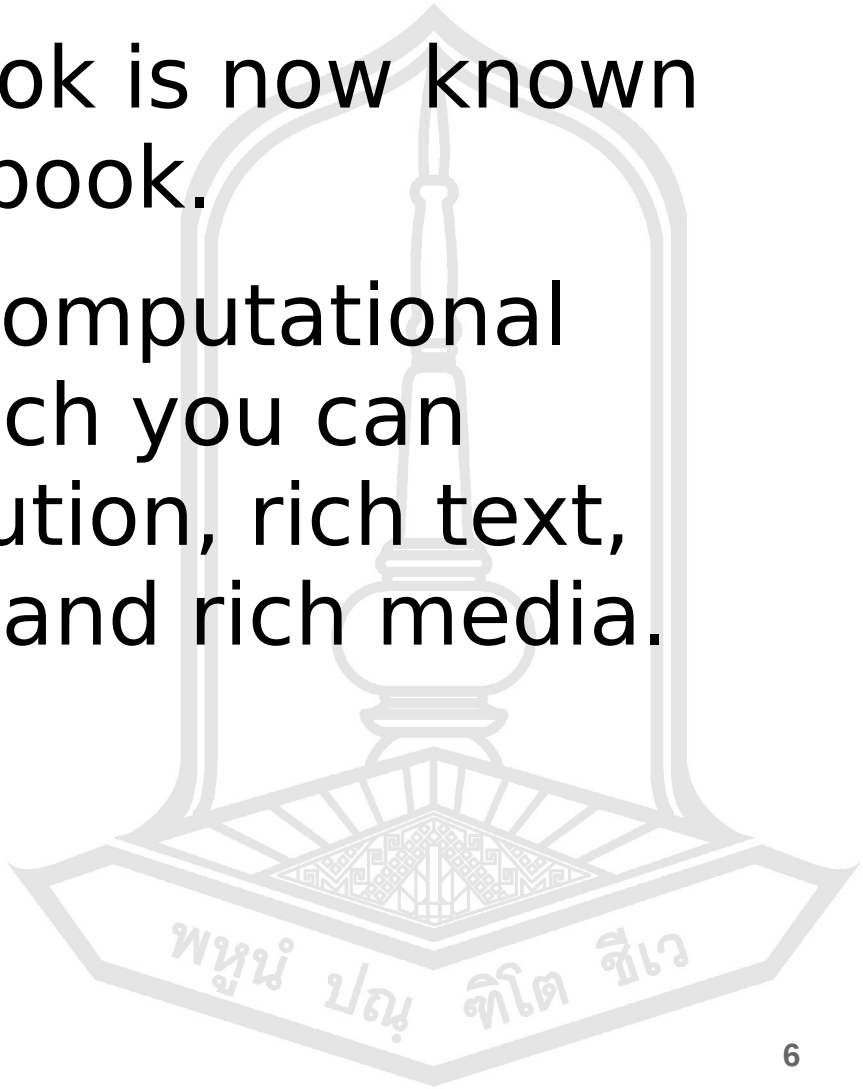
Download Python program

- Choose **Anaconda** for windows installer & **Download**
- Then, double click at the program to install the Anaconda into your system

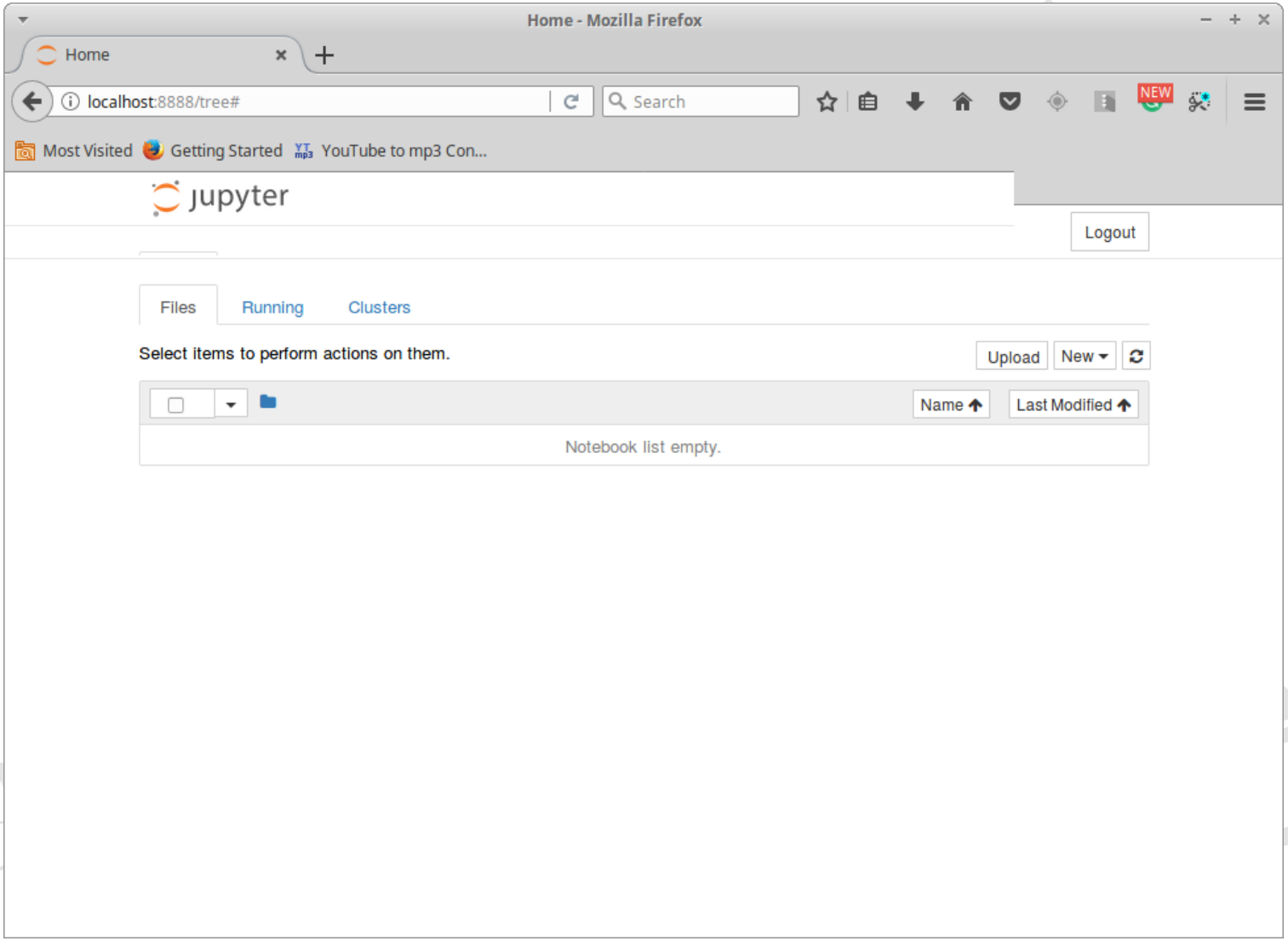


IPython Notebook

- The IPython Notebook is now known as the Jupyter Notebook.
- It is an interactive computational environment, in which you can combine code execution, rich text, mathematics, plots and rich media.

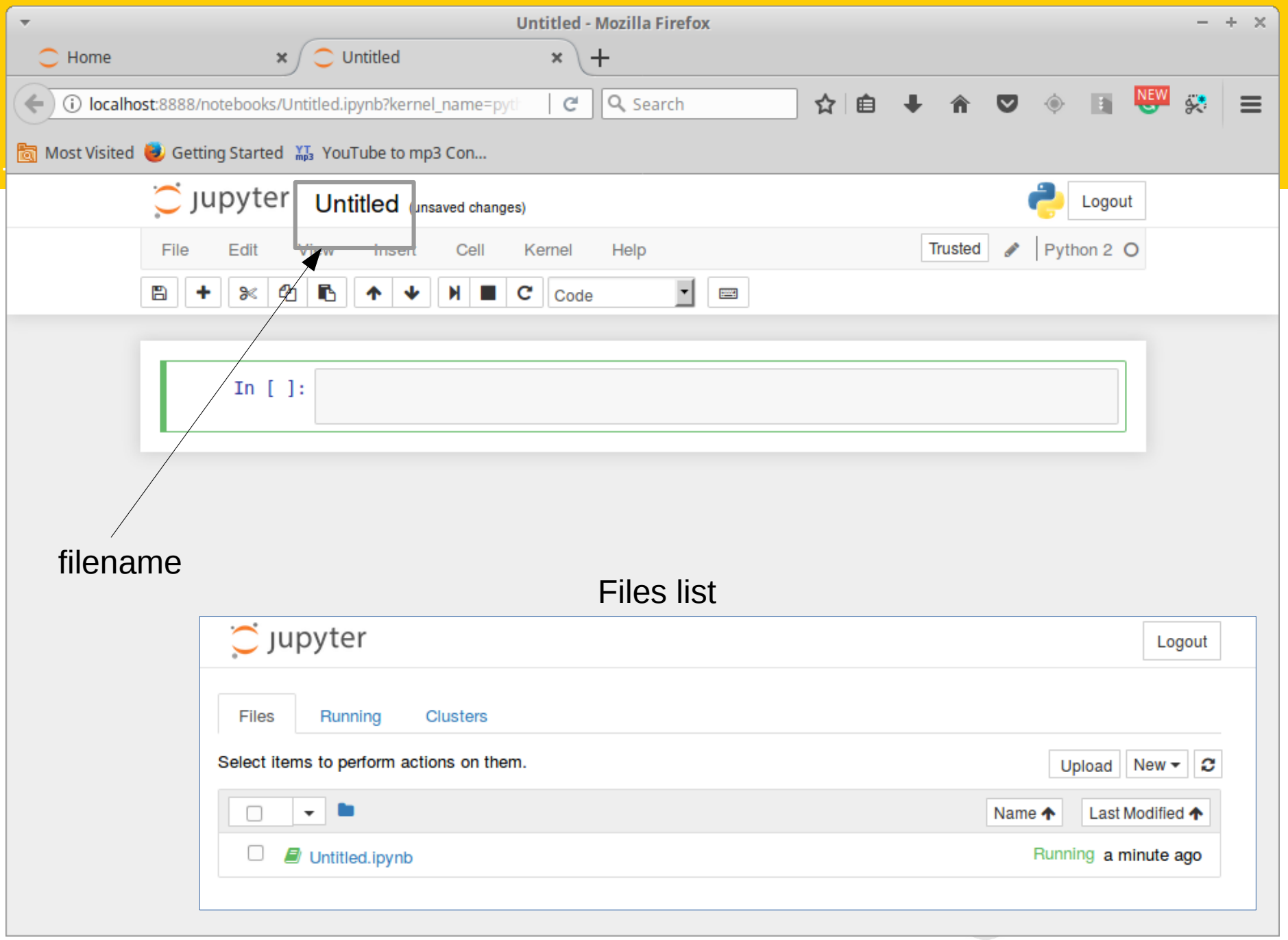


IPython Notebook

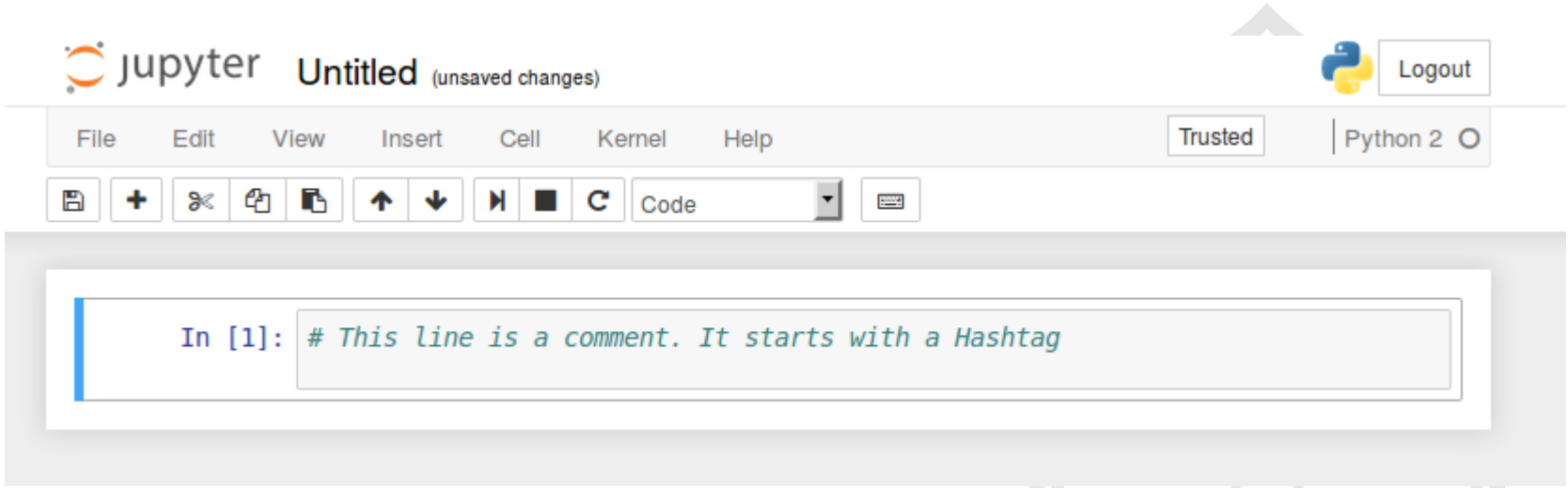


Create a new Python file

Choose > **Python**

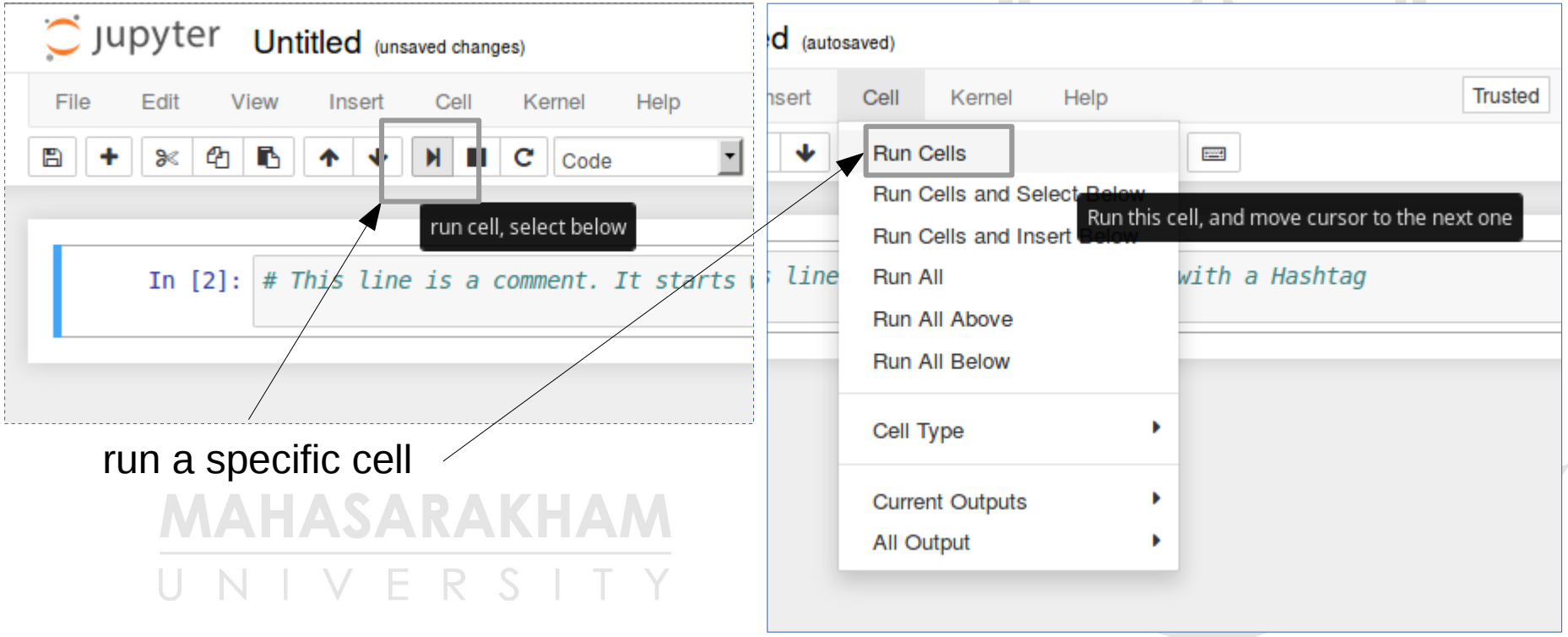

Untitled - Mozilla Firefox
Home
Untitled
localhost:8888/notebooks/Untitled.ipynb?kernel_name=pyt
Search
Most Visited
Getting Started
YouTube to mp3 Con...
jupyter
Untitled
(unsaved changes)
Logout
File
Edit
View
Insert
Cell
Kernel
Help
Trusted
Python 2
Code
In [ ]:
filename
Files list
jupyter
Logout
Files
Running
Clusters
Select items to perform actions on them.
Upload
New
Name
Last Modified
Untitled.ipynb
Running
a minute ago

Comment in Python



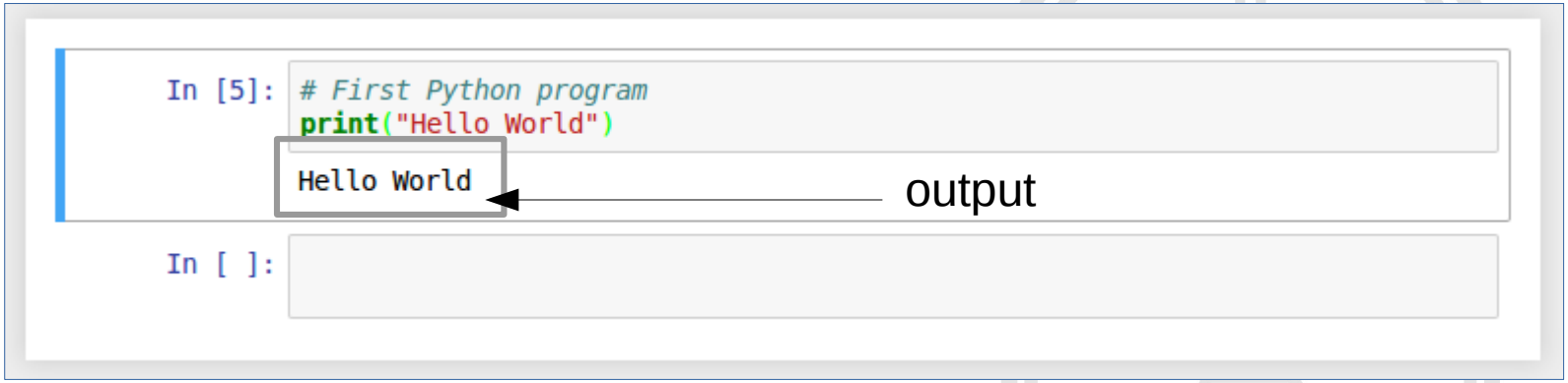
Run a select cell

- Choose a cell that you want to run, then choose **Run cells** or click at icon



First Python program

print(“Hello World”)



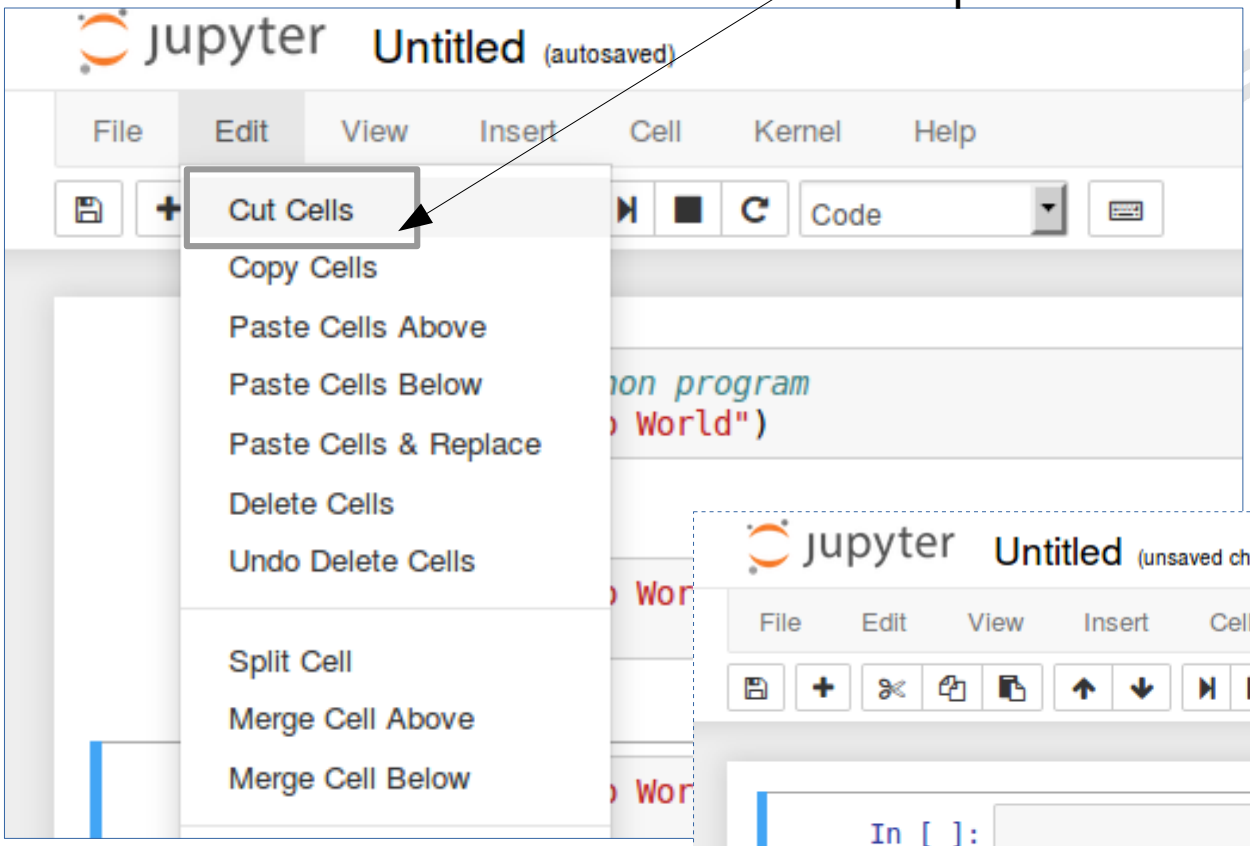
To show the result, run cell or ***shift*** + ***Enter***

Print function

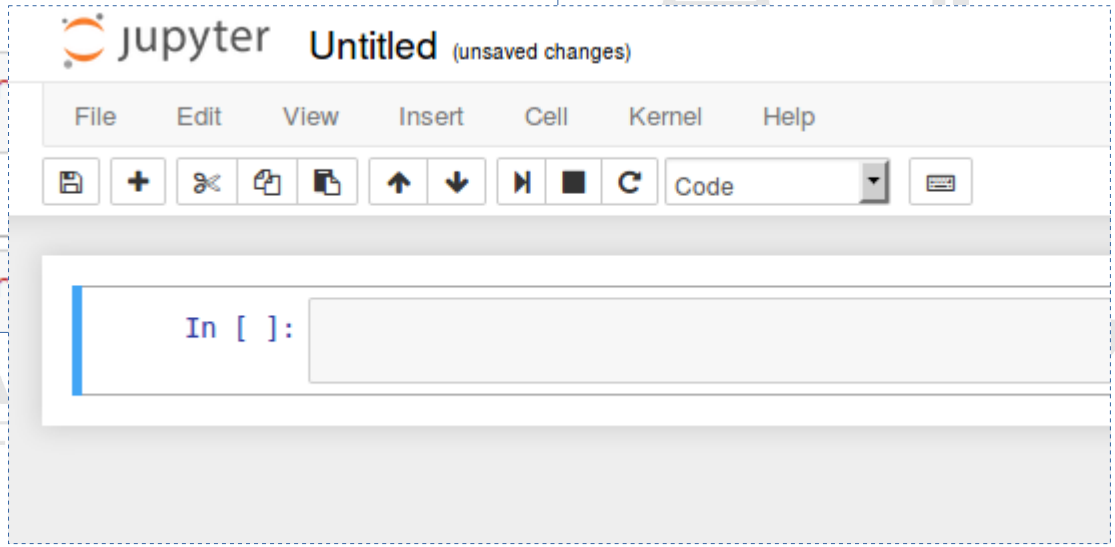
```
In [6]: # First Python program
        print("Hello World")

        Hello World

In [8]: print "Hello World"

        Hello World

In [9]: print 'Hello World'

        Hello World

In [ ]:
```

Cut cells

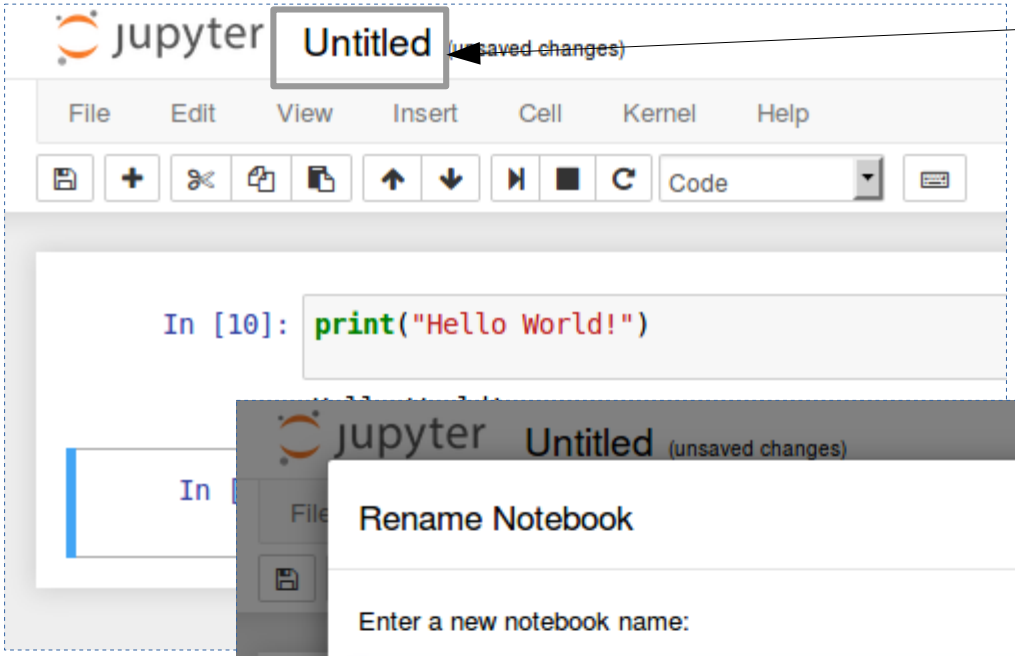
Cut a specific cell



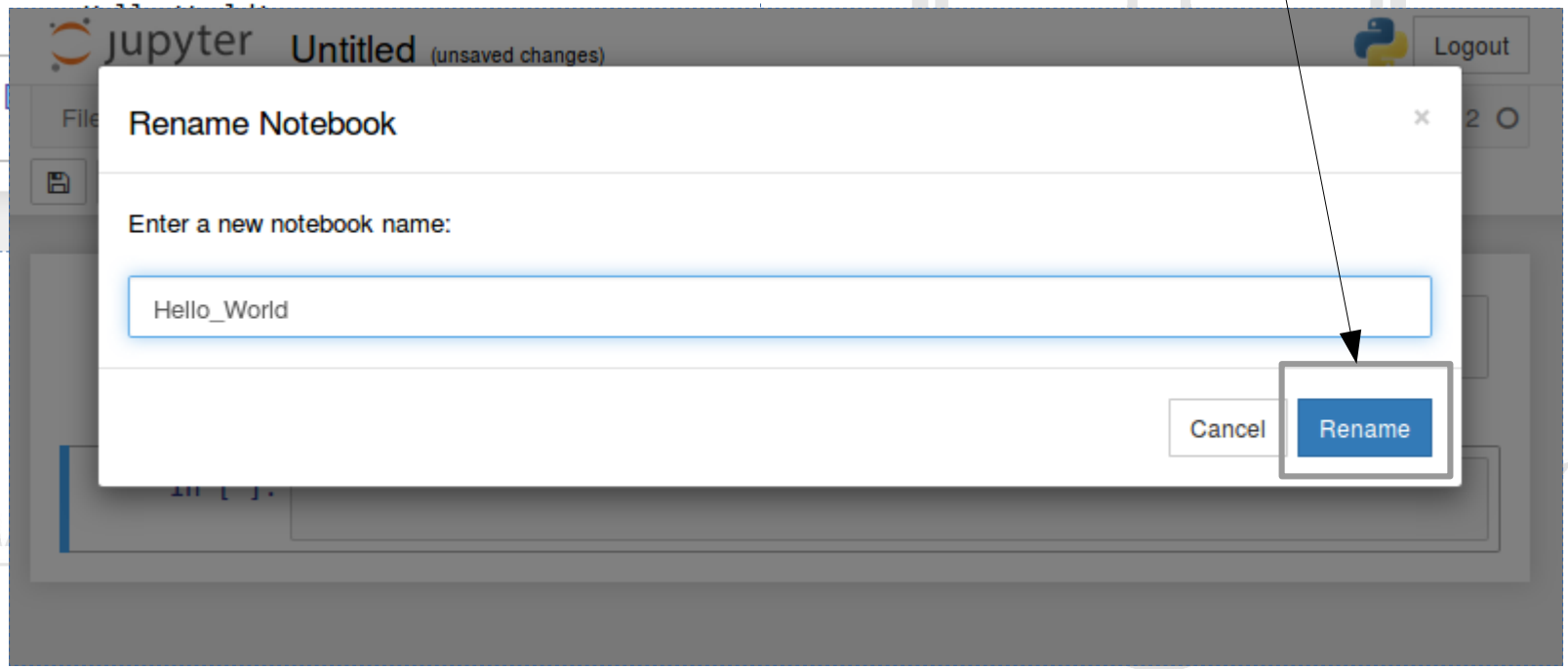
After cut cells



Rename Notebook



Click at "*Untitled*" and rename a notebook, then click at "**Rename button**"



statement

```
In [27]: a = 2 + 3
         print(a)

         5

In [23]: a = 2 + 3
         print("a = {}".format(a))

         a = 5

In [24]: a = 2 + 3
         print "a = {}".format(a)

         a = 5

In [26]: a = 2 + 3
         print("a = %d"%(a))

         a = 5

In [ ]:
```

variable = **a**
value of ***a*** = **2 + 3**
type of ***a*** **= integer (int)**

Type of variable

```
In [30]: a = 2+3
         print(type(a))
<type 'int'>
```

variable = **a**
value of ***a*** = **2 + 3**
type of ***a*** **= integer (int)**

```
In [ ]:
```

```
In [32]: a = "Hello world"
         print(type(a))
<type 'str'>
```

variable = **a**
value of ***a*** = **“Hello World”**
type of ***a*** **= string (str)**

```
In [ ]:
```

Multi-line statement

```
In [37]: a = 1 + 2 + 3 + 4 +\
             5 + 6 + 7 +\
             8 + 9 + 10

         print a

         55

In [ ]:
```

Waiting for the user

```
In [*]: raw_input("Please input your name")
        Please input your name
In [ ]:
```

```
In [43]: raw_input("Please input your name")
         Please input your nameOlarik
Out[43]: 'Olarik'
In [ ]:
```

Waiting for the user

```
In [*]: name = raw_input("Input your name ")
        print("Your name is %s"%(name))
        Input your name Olarik

In [ ]:
```

```
In [5]: name = raw_input("Input your name ")
        print("Your name is %s"%(name))
        Input your name Olarik
        Your name is Olarik

In [ ]:
```

Assigning values to variables

```
In [7]: counter = 100
        miles = 1000.0
        name = "John"

In [8]: print counter
        print miles
        print name

        100
        1000.0
        John

In [ ]:
```

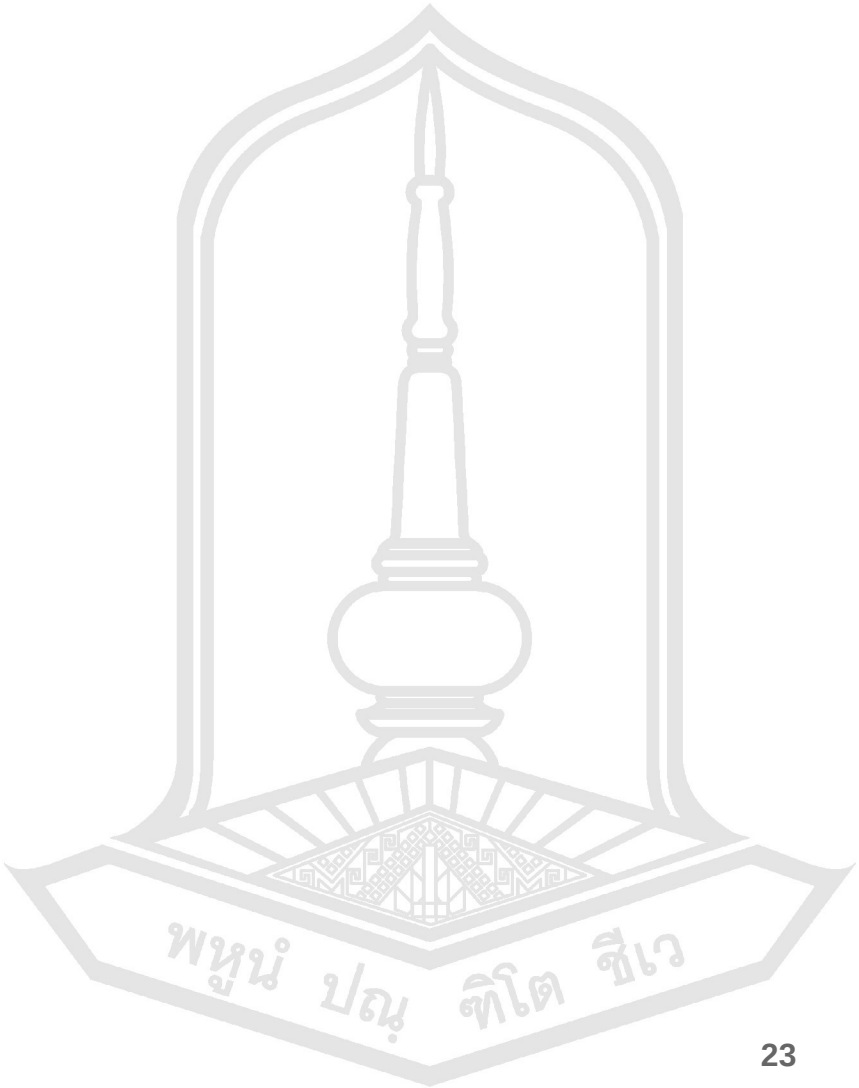
counter = an integer assignment
miles = a floating point
name = a string

Error message

- If you run the second cell before the first cell, system will show the message error

```
In [7]: counter = 100
        miles = 1000.0
        name = "John"

In [1]: print counter
        print miles
        print name

---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-1-9a8c2df3102d> in <module>()
----> 1 print counter
      2 print miles
      3 print name

NameError: name 'counter' is not defined

In [ ]:
```

The error message show that you forgets to define the variable "**counter**"



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