1.2.1. First steps

Start the **Ipython** shell (an enhanced interactive Python shell):

- by typing “ipython” from a Linux/Mac terminal, or from the Windows cmd shell,
- **or** by starting the program from a menu, e.g. in the Python(x,y) or EPD menu if you have installed one of these scientific-Python suites.

If you don’t have Ipython installed on your computer, other Python shells are available, such as the plain Python shell started by typing “python” in a terminal, or the Idle interpreter. However, we advise to use the Ipython shell because of its enhanced features, especially for interactive scientific computing.

Once you have started the interpreter, type

```
>>> print("Hello, world!")
Hello, world!
```

The message “Hello, world!” is then displayed. You just executed your first Python instruction, congratulations!

To get yourself started, type the following stack of instructions

```
>>> a = 3
>>> b = 2*a
>>> type(b)
<type 'int'>
>>> print(b)
6
>>> a*b
18
>>> b = 'hello'
>>> type(b)
```

```
<type 'str'>
>>> b + b
'hellohello'
>>> 2*b
'hellohello'
```

Two variables `a` and `b` have been defined above. Note that one does not declare the type of a variable before assigning its value. In C, conversely, one should write:

```
int a = 3;
```

In addition, the type of a variable may change, in the sense that at one point in time it can be equal to a value of a certain type, and a second point in time, it can be equal to a value of a different type. *b* was first equal to an integer, but it became equal to a string when it was assigned the value *'hello'*. Operations on integers (`b=2*a`) are coded natively in Python, and so are some operations on strings such as additions and multiplications, which amount respectively to concatenation and repetition.