

How to use the command line.

In this course, you will often work with a terminal or shell. Terminals have been around since the 1960s. They don't use a mouse. You must use the keyboard to work with the terminal.

Every operating system has a terminal program. To get comfortable with the terminal, you must remember a few basic concepts:

1. The current directory: Directories are folders in your computer. The terminal remembers which directory it's working with. This is called the current directory.
2. To do anything, you must type a command. You know that the terminal is waiting for a command, because it shows you a prompt. After typing a command, press `Enter` to complete it.
3. Sometimes you will get stuck. If so, your best tool is `Control-C`: Hold down the `Control` key, and press the `C` key.
4. The terminal is not very friendly. If you make a mistake, it will complain, with an error message.

Some useful commands:

Command	What it does
<code>pwd</code>	tells you the current directory
<code>ls</code>	shows the names of the files in the current directory
<code>ls -l</code>	same as <code>ls</code> , but shows you more details
<code>cd xyz</code>	you are now in sub-directory <code>xyz</code> (go down)
<code>cd ..</code>	you are now in the directory above this one (go up)
<code>cd</code>	you are now in your HOME directory
<code>python</code>	starts the python interpreter
<code>Control-D</code>	exits the python interpreter

Command	What it does
<code>python lab02.py</code>	runs the python file <code>lab02.py</code>
<UP KEY>	repeats the previous command (press the arrows, or delete, or backspace to change the command)
<code>exit</code>	closes the terminal session (Don't do this yet!)

On Windows computers, the commands are a bit different:

Command	What it does
<code>cd</code>	tells you the current directory
<code>dir /w</code>	shows the names of the files in the current directory
<code>dir</code>	same as <code>dir /w</code> , but shows you more details
<code>cd xyz</code>	you are now in sub-directory <code>xyz</code> (go down)
<code>cd ..</code>	you are now in the directory above this one (go up)
<code>python</code>	starts the python interpreter
<code>Control-Z</code>	exits the python interpreter
<code>python lab02.py</code>	runs the python file <code>lab02.py</code>
<UP KEY>	repeats the previous command (press the arrows, or delete, or backspace to change the command)
<code>exit</code>	closes the terminal session (Don't do this yet!)

Where is the Python interpreter? (MS Windows)

On Windows, the command shell may not know where the interpreter is located. Hence `python lab02.py` may report "Command not found". Solve this problem thus:

1. First, find the interpreter's path. Look for `python.exe`. It may be somewhere in `C:\Program Files`, or in `C:\Python`.
2. In Search, search for and then select: System (Control Panel)
3. Click the "Advanced system settings" link.
4. Click "Environment Variables".
5. In the section "System Variables", find the `PATH` environment variable and select it.
6. Click "Edit". If the `PATH` environment variable does not exist, click "New".
7. In the "Edit System Variable" (or "New System Variable") window, add `C:\Python` or `"C:\Program Files\Python"` or whatever you found in step 1. Don't forget the `:` colon between paths! JUST ADD MORE TEXT to the `PATH` variable; be careful not to delete the old text of the `PATH` variable.

Where is the Python interpreter? (Mac OS)

Mac OS comes with python built-in, but it's python 2, not python 3. So, if you type

```
python
```

on the command line, you'll probably get python 2.7. Try it.

If so, you should go to www.python.org/downloads and get python 3.7 or higher, for Mac OS X. Install it, and, henceforth, type

```
python3
```

on your command line, to ensure you're getting the right version. Try it.