

User manual

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language python

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Installation guides

Linux

Python's installation

If you are using Ubuntu 16.10 or newer, then you can easily install Python 3.6 with the following commands:

```
sudo apt-get update
sudo apt-get install python3.6
```

If you are using another version of Ubuntu (e.g. the latest LTS release) or you want to use a more current Python, we recommend using the [deadsnakes PPA](#) to install Python 3.8:

```
sudo apt-get install software-properties-common
sudo add-apt-repository ppa:deadsnakes/ppa
sudo apt-get update
sudo apt-get install python3.8
```

If you are using other Linux distribution, chances are you already have Python 3 pre-installed as well. If not, use your distribution's package manager. For example on Fedora, you would use `dnf`:

```
sudo dnf install python3
```

To see which version of Python 3 you have installed, open a command prompt and run:

```
python3 --version
```

Program installation

Install `unzip` on Linux:

```
sudo apt install unzip
```

To unzip a `.zip` file:

```
# In current directory
unzip filename.zip

# To different directory
unzip filename.zip -d /path/to/directory
```

Program launch

Open a terminal, move to the `src` directory of the project with the `cd` command.

To run the program, enter the command:

```
python3 main.py
```

Windows

Python's installation

Find all download resources at python.org.

Full details of the python installation documentation at docs.python.org.

Program installation

Install [Winrar](#) or [7zip](#).

To unzip the file `fileName.zip` right click on it and select extract.

Program launch

Open a terminal, move to the `src` directory of the project with the command `cd`.

To run the program, enter the command:

```
py main.py
```

MacOS

Python's installation

Find all download resources at python.org.

You can also download [Xcode](#). If you are doing a fresh install of [Xcode](#), you will also need to add the command line tools by running the following command in the terminal:

```
xcode-select --install
```

[Homebrew](#) is a decent package manager, to install it open the terminal and run :

```
/bin/bash -c "$(curl -fsSL  
https://raw.githubusercontent.com/Homebrew/install/master/install.sh)"
```

Once you've installed [Homebrew](#), insert the [Homebrew](#) directory at the top of your `PATH` environment variable. You can do this by adding the following line at the bottom of your `~/.profile` file:

```
export PATH="/usr/local/opt/python/libexec/bin:$PATH"
```

If you have OS X 10.12 (Sierra) or older use this line instead:

```
export PATH="/usr/local/bin:/usr/local/sbin:$PATH"
```

Now, we can install Python 3:

```
brew install python
```

At this point, you have the system Python 2.7 available, potentially the [Homebrew version of Python 2](#) installed, and the Homebrew version of Python 3 as well.

- `python` will launch the Homebrew-installed Python 3 interpreter.
- `python2` will launch the Homebrew-installed Python 2 interpreter (if any).
- `python3` will launch the Homebrew-installed Python 3 interpreter.

If the [Homebrew](#) version of Python 2 is installed then `pip2` will point to Python 2. If the [Homebrew](#) version of Python 3 is installed then `pip` will point to Python 3.

To see which version of Python you have, open a terminal and run:

```
python --version
```

Program installation

To unzip the file `fileName.zip`, double click on the file.

Program launch

Open a terminal, move to the `src` directory of the project with the command `cd`.

To run the program, enter the command:

```
python3 main.py
```

Program use

CSV file format

The `.csv` file format should be as follows:

	Name1	Name2	Name3
School1	PrefSchool,PrefStudent	PrefSchool,PrefStudent	PrefSchool,PrefStudent
School2	PrefSchool,PrefStudent	PrefSchool,PrefStudent	PrefSchool,PrefStudent
School3	PrefSchool,PrefStudent	PrefSchool,PrefStudent	PrefSchool,PrefStudent

or

	School1	School2	School3
Name1	PrefStudent,PrefSchool	PrefStudent,PrefSchool	PrefStudent,PrefSchool
Name2	PrefStudent,PrefSchool	PrefStudent,PrefSchool	PrefStudent,PrefSchool
Name3	PrefStudent,PrefSchool	PrefStudent,PrefSchool	PrefStudent,PrefSchool

For example:

	Tom	Bob	Alice
ENSEEIH	1,2	2,1	3,3
INSA	2,1	1,2	3,1
ENSIMAG	1,3	2,3	3,2

With any number of columns and rows.

The `.csv` file should be placed in the `src/csvFiles/` directory.

Program use

At the start of the program, the user is asked for the full name of the `.csv` file:

The file name must be in the format `filename.csv`.

```
> Enter the CSV file name : example4.csv
```

The user is then asked if the association is made on the elements of the row header or the column header.

The answer given can be:

- `r`, `row`, `rows`, `l`, `ligne`, `lignes` for the binding on the header row ;
- `c`, `col`, `column`, `columns`, `colonne`, `colonnes` for the binding on the header column.

```
> Enter who makes the binding [Row/Col] : row
```

The program asks the user for the capacity for each school.

The capacity provided must be higher or equal to 0.

```
> Enter the school's capacity 'INSA' : 3
> Enter the school's capacity 'ENSEEIH' : 5
> Enter the school's capacity 'ENSIMAG' : 8
```

The result is then displayed.

The program first displays the students assigned to each school with the name of the school and the names of the students in a box.

In the second step, it displays the number of rounds the program made to assign all students to a school.

```
=====
|           RESULT           |
=====
1. =====
| School : INSA              |
| Student(s) : Basile Michael Fernando |
=====
2. =====
| School : ENSEEIHT          |
| Student(s) : Sebastian Lewis Max Nicolas George |
=====
3. =====
| School : ENSIMAG           |
| Student(s) : Charles Yuki Lea Daniel Pierre Esteban Andre Lucie |
=====
> Number of rounds : 6
```

Possible errors

When asking the user for a `.csv` file name, if the proposed name does not contain the extension of a `.csv` file, the `warning: Incorrect file name !` error appears.

```
> Enter the CSV file name : errorName
Warning: Incorrect file name !
```

When asking the user for the `.csv` file name, if the proposed name is not found in the expected directory, the `warning: csv file not found` error appears.

```
> Enter the CSV file name : notFound.csv
Warning: CSV file not found
```

When asking the user for the capacity of a school, if the value entered is not an integer, the `warning: You must enter an integer !` error appears.

```
> Enter the school's capacity 'ENSEEIHT' : notNumber
Warning: You must enter an integer !
```

When asking the user for the capacity of a school, if the value entered is less than 0, the `warning: The capacity must be higher than 0 !` error appears.

```
> Enter the school's capacity 'ENSEEIHT' : -1
Warning: The capacity must be higher than 0 !
```