How to Install Python and PyGame …

… on Windows (detailed)

1. **Python 3.5.1**

   (1) **Download and run the Python installer** from python.org/downloads/windows/.
   There is a (default) 32-bit (x86) and a 64-bit (x64) version available. Direct links:
   - 32-bit: v3.5.1 (x86)
   - 64-bit: v3.5.1 (x64)

   Not sure if you have a 64- or a 32-bit version of Windows installed?
   > Search for "Systeminformationen" or "System" (Windows Search – if you don't find it, search for it at "Systemsteuerung"). The information (32-/64-bit) can be found at the point "Systemtyp" (the "default" is 32-bit).

   If you decide for "Customize installation", make sure you install "pip" (and "IDLE").

   (2) If the setup fails, it will show you how to fix the problem (maybe you need to update your computer if the version of Windows is too old or you are missing a Service Pack). Use the Windows Search to start "IDLE". Probably the Python Shell will show up at the first start. You can switch to the file editor by clicking on "File" > "New File".

2. **PyGame 1.9.2**

   (1) You will probably not find an installer (*.exe* or *.msi*) for PyGame on the original download page that fits Python 3.5, so you have to **download a *.whl*-file from lfd.uci.edu/~gohlke/pythonlibs/#pygame** instead. The version of PyGame has to fit the version of Python (→ cp35):
   - 32-bit: pygame-1.9.2a0-cp35-none-win32.whl
   - 64-bit: pygame-1.9.2a0-cp35-none-win_amd64.whl

   (2) Open Windows-Explorer and navigate to the directory where Python has been installed before (in step 1. (1)). If you didn't change it (during setup), it will probably be something like "*C:\Users\[USER]\AppData\Local\Programs\Python\Python35*" (Don't forget to replace [USER] with your name!) or "*C:\Python35*". Now open the subfolder "Scripts" and **move the *.whl*-file** (that you downloaded before; probably located in your "Downloads" folder) **to the "Scripts" folder**.

   (3) Hold down the SHIFT key (in the "Scripts" folder) and perform a right-click in the Windows-Explorer (not on a file, simply on the "Scripts" folder!). You should be able to select the option "Eingabeaufforderung hier öffnen" to **open the command line tool in the "Scripts" directory**. If you don't see this option, simply open the command line by searching for "cmd" using Windows Search and navigating to the directory by entering "`cd C:\Python35\Scripts`" (or whatever the location is on your computer!).

   (4) In the command window **type `pip3 install` and the name of the *.whl*-file**, so:
   - 32-bit: `pip3 install pygame-1.9.2a0-cp35-none-win32.whl`
   - 64-bit: `pip3 install pygame-1.9.2a0-cp35-none-win_amd64.whl`
   - <u>Tip:</u> Simply type "`pip3 install py`" and hit tab (→ autocomplete)

3. **Testing** (and an **alternative way of installing PyGame** if the installation failed)

    (1) Use Windows Search to start IDLE (search for "IDLE"). **Run the Python Shell** (if not started automatically) by selecting "Run" > "Python Shell". In the first line you can see which version (32-/64-bit) of Python is installed.

    (2) **Type "`import pygame`".** If you <u>don't</u> get an error, continue with step (3), otherwise try to reinstall PyGame in the default matter (step 2 again) or (if the installation failed twice) install PyGame the following way:

- Rename the *.whl*-file to *.zip* and extract it (You don't need to do the rename, but it will make it easier to extract it). You should see three folders now:
  - pygame
  - pygame-1.9.2a0.data
  - pygame-1.9.2a0.dist-info
- Use Windows-Explorer to navigate to the Python directory (see step 2. (2)) and open the subfolder "include". In there, create a new folder called "pygame". Now, copy all the header files (.h) located in "pygame-1.9.2a0.data\headers" (extracted from the *.zip*-file) and paste them into the "pygame" folder (that you just created).
- Switch from "include" to the folder "Lib" and open the subfolder called "site-packages". Then copy all three folders ("pygame", "pygame-1.9.2a0.data" and "pygame-1.9.2a0.dist-info" (from the *.zip*-file)) directly into the "site-packages" folder.
- Restart IDLE and type **"`import pygame`"**.

    (3) After importing pygame, type the following commands (Python Shell) to check that PyGame is working:

```
import pygame.examples.aliens as game
game.main()
```

… on Linux/Unix

1. **Python 3.5.1**

   (1) Download *.tar.xz* (or *.tgz*) from python.org/downloads/source/ (direct link: **v3.5.1**)
   (2) Open the terminal and navigate to the download folder (`cd …`)
   (3) Unpack the file with `tar xf Python-3.5.1.tar.xz`
   (4) Type `cd Python-3.5.1` to access the folder
   (5) Type `./configure`
   (6) Type `make`
   (7) Type `su root` for sudo rights, then type `make install`

2. **PyGame (mostly 1.9.1)**

   Please have a look at pygame.org/download.shtml. Scroll down two "Unix Distributions" and select the one you need. Default way (terminal) for Ubuntu:

   (1) sudo apt-get install mercurial python3-dev python3-numpy libav-tools \
        libsdl-image1.2-dev libsdl-mixer1.2-dev libsdl-ttf2.0-dev libsmpeg-dev \
        libsdl1.2-dev libportmidi-dev libswscale-dev libavformat-dev libavcodec-dev
   (2) hg clone https://bitbucket.org/pygame/pygame
   (3) cd pygame
   (4) python3 setup.py build
   (5) sudo python3 setup.py install

… on Mac OS X

1. The installer (original *.pkg*-file) for Python 3.5.1 can be downloaded at:
   - 32-bit: v3.5.1 (x86)
   - 64-bit: v3.5.1 (x64)

2. Instructions from pygame.org:

   1. Create and add the following to **~/.bash_profile**:
      # Homebrew binaries now take precedence over Apple defaults
      `export PATH=/usr/local/bin:$PATH`
   2. Install the Apple **Xcode command line tools** via terminal:
      `xcode-select –install`
   3. Install **XQuartz** from here
   4. Install **homebrew** via terminal – type the following command in <u>one</u> line:
      `/usr/bin/ruby -e "$(curl -fsSL`
      `https://raw.githubusercontent.com/Homebrew/install/master/install)`
   5. Install **Python3 "proper" and packages** (required for installing PyGame from bitbucket):
      `brew install python3 hg sdl sdl_image sdl_mixer sdl_ttf portmidi`
   6. Install **PyGame**:
      `pip3 install hg+http://bitbucket.org/pygame/pygame`
   7. **Restart** the Mac.

   <u>Old</u> Instructions for Python and PyGame (with video): Click here