

## Installing A→Z + T

### TL;DR

You need Python 3+ and *one* dependency (PyAudio) to run A→Z + T. Download this repository, and run `main.py`.

### Python

If you need to install Python, you can find it [here](#).

Note: your python 3+ executable may be called `python` or `python3`. Be sure to use the correct form for your system when following the instructions below.

### Error Tracking

If you have *any* trouble with anything on this page, please copy all error messages and paste them into an Email to me and/or Google.

If you click on an icon and get a flash and nothing more, you may need to run python from a command terminal (□ win+R then type 'cmd' in Windows) to see what errors are keeping it from running.

### Dependencies

- PyAudio: run `python -m pip install pyaudio` to install.
  - On Linux (and Mac?), pyaudio may in turn have a dependency of `portaudio19-dev`, which you should install with your package manager (e.g., `sudo apt-get install portaudio19-dev`).

### Optional dependency: PIL/Pillow

This install allows for visual rendering of tone glyphs that aren't currently working in tkinter:

```
python -m pip install --upgrade pip (if your pip hasn't been upgraded recently)
python -m pip install --upgrade Pillow
```

If you have any problem installing this, it is not a problem for using AZT—you will simply see tone marks badly ligatured, like (↑↑↑↑↑) instead of like (↑↓∨).

## Installation on Microsoft Windows

For some reason, I have had trouble getting pyaudio installed on Windows machines with most recent versions of Python (3.9). You may have better mileage than I. In any case, I have found that it works smoothly to

- Download and install Python 3.6.8 (e.g., from [here](#)).
  - **Be sure to check “add to PATH”** (or whatever options are appropriate), so Windows knows where Python is installed.
  - If you have more than one version of python installed (e.g. 2.7 and 3.6.8), be sure to know how to run version 3 for this program.
- Then, to install the pyaudio dependency, open a terminal (e.g.,  $\square$  win+R then type ‘cmd’) and run
  - `python -m pip install pyaudio`
- Alternatively (instead of the above two steps), it may work to do the following:
  - `python -m pip install pipwin`
  - `pipwin install pyaudio`

## XLingPaper and the XMLmind XML Editor (XXE)

To make full use of A→Z+T’s report output, I strongly advise you to be ready to use XLingPaper, if you are not already. It can be downloaded [here](#); this page also includes information on downloading the XMLmind XML Editor (XXE), which is critical to most uses of XLingPaper.

## A→Z+T

To get the program:

- `git clone https://github.com/kent-rasmussen/azt.git`
  - You may need to install Git (e.g. [here](#) or [here](#)) first, or
- click on the green code button on the main page for download options.

If you download an archive (e.g., zip file), extract it so you have a folder of files. Either way, put it somewhere sensible, so you can find it later. If you use `git clone`, you can update in the future with `git pull`, and just download the changes since you last updated.

To run: Assuming your system is configured correctly, just run `main.py`. Depending on your system, that may be just a click on the file (or a link to it on your desktop or wherever), or you may need to type that into a terminal. Your operating system should know to open `main.py` with `python`, but you can also explicitly tell it to with `python main.py`.

For usage information, see `USAGE`