Files, Errors and Warnings of **pythontex** 0.18

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1 Introduction

This document is created with `lualatex` or that like with output format pdf. The package `tex4ht` is not loaded.

The `pythontex` package together with the auxiliary program with the same name `pythontex`, allows including code, e.g. in Python into a LaTeX document. This document describes the input/output behavior of the auxiliary program `pythontex`, version 0.18 which includes all files read and written and uses pythontex. For example, `1+1=2` has been computed by python. bla

Interaction of `pythontex` with a LaTeX-to-pdf converter like `lualatex` is comparable to that of other auxiliary programs like `makeindex`: A latex package makes the LaTeX-to-pdf converter extract information for the auxiliary program into a separate file or more. Then the auxiliary program is run which creates further files which the LaTeX-to-pdf converter reads in a second run.

Both, the package `pythontex` and the auxiliary programs `pythontex` and `depythontex`, are described in [**?**]. Moreover, there is an introduction [**?**] and a gallery [**?**]. For background on the intentions of package `pythontex`, consult [**?**].

The integration of `pythontex` into the latex maven plugin in this project is given in [**?**], Section 5.5.

Another source of knowledge on pythontex is the source code hosted at `https://github.com/gpoore/pythontex`.

At least the following properties are special to package `pythontex`:

- The number of files `pythontex` may create is variable and so by default they are put into a subfolder.

- The output files generated are highly configurable.

- There is more than one auxiliary program tied to the package, besides `pythontex` also `depythontex`.

- The errors and warnings of a `pythontex` run and of a `depythontex` run are not written into a log file.

In [**?**], Section 5.5 a wrapper for `pythontex` is suggested writing the errors and warnings normally coming at standard output or error output into a log file `xxx.plg`. Nevertheless, currently no log file is written.

The package `pythontex` is highly configurable, more than this software allows. Thus, also in this document we assume that neither `\setpythontexoutputdir` setting the output directory nor `\setpythontexworkingdir` setting the working directory are used, because this software assumes the default that the working directory is the directory containing the LaTeX main file `xxx.tex` and the output directory is in the working directory and its name is `pythontex-files-xxx`.

2 The converter `pythontex`

As already pointed out in the introduction, we restrict ourselves to the default case in which `pythontex` writes output files only in folder `pythontex-files-xxx`.

Under these assumptions, Figure 1 shows the input and output files of `pythontex`.

The input file is described in Section 2.1 in full detail. Section 2.2 is devoted to the output files of `pythontex`. Note that unlike the wrapper `pythontexW`, the original `pythontex` just prints errors and warnings. These are all collected in Section 2.3. Finally, Section 2.4 is on the failure codes.

2.1 The Input File `xxx.pytxcode`

2.2 The Output Files

Figure 1 shows that the output files of `pythontex` are all in folder `pythontex-files-xxx`. Temporary files in dotted boxes, so these can be seen only if the `pythontex` run is interrupted, e.g. by failure. The other files are called *final*. The Figure also indicates, that the wrapper `pythontexW` writes a log file in addition.

Among the final files, there is `xxx.pytxmcr` which starts something like

```
%Last time of file creation:  1656851667.5282867
```

and contains processed pygments code according to [**?**], page 107.

Although indicates the time of the last `pythontex` wrote the file, seemingly, `pythontex` does not update if it is unchanged. So it does not indicate the last run.
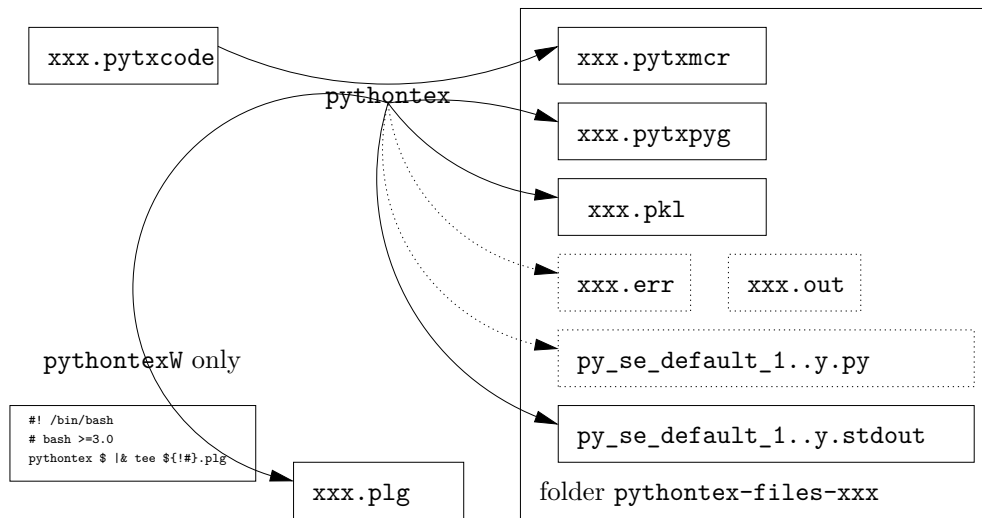
Figure 1: Conversion of a `pytxcode`-file using `pythontex`

2.3 Errors and Warnings at standard/error output
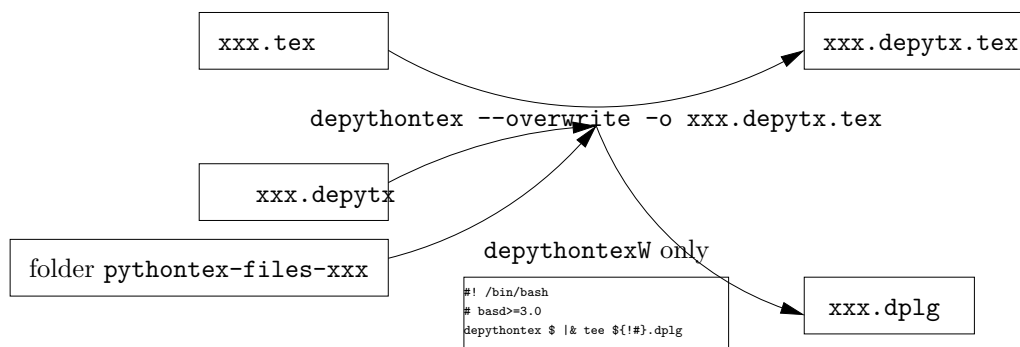
2.4 Failure codes

3 The converter `depythontex`

Figure 2: Conversion of a `depytx`-file using `depythontex`

3.1 The Input File `xxx.dpytx`

3.2 The Output Files

3.3 Errors and Warnings at standard/error output

3.4 Failure codes