PuyoTikZ

A \LaTeX\ package for quickly typesetting board states of Puyo Puyo games.

Supports large and small boards with arbitrary shape, hidden rows, current and next puyos, labels and move planning markers.

Source code available for download on GitHub or your favorite \TeX\ repository. Package requires Python3 in support of scripts driven by Python\TeX. 

Move planning markers shown at left. Tailing variations on the Great Tanaka Rensa (GTR) shown below.

Created by terramyst.
1 Installation

1.1 Python3 and Python\TeX

Installing this package should be straightforward through the user’s \TeX package manager. Python3 will additionally need to be installed; it is recommended to use a virtual environment management tool such as Anaconda. The Python environment will need packages Pygments and Numpy installed.

Compiling the document requires inserting a new command into the build sequence. Python\TeX must run \texttt{pythontex.py} in between two separate runs of the \TeX engine (see Python\TeX documentation for more detail).

2 Usage

This package provides an environment and three macros for typesetting Puyo Puyo boards for inclusion in \LaTeX documents.

\texttt{puyotikz} environment.

The \texttt{puyotikz} environment is simply a wrapper for the \texttt{tikzpicture} environment. The user is therefore able to use additional TikZ macros inside this environment if they wish to augment whatever graphics are already provided by this package.

The \texttt{puyotikz} environment takes a single numeric argument which is passed to the \texttt{tikzpicture} environment as the scaling parameter. This package provides two scaling parameter definitions for convenience, \texttt{\textbackslash puyosmallscale} and \texttt{\textbackslash puyobigscale} (the default).

\begin{verbatim}
\texttt{\% example usage} \\
\begin{puyotikz}[\texttt{\textbackslash puyosmallscale}] \\
\texttt{\% content...} \\
\end{puyotikz}
\end{verbatim}

For the traditional colors of red, yellow, green, blue, purple, and gray this package also provides new color definitions such as \texttt{bluepuyo} and \texttt{darkredpuyo}.
puyoboard macro.

The \texttt{puyoboard} macro takes 2 arguments and 4 optional parameters and must be used inside the \texttt{puyotikz} environment.

Puyos are specified in format strings by column (bottom-up, left-to-right). Each puyo is identified by a single letter (r, y, g, b, p, n). Columns (or next puyos) are separated by /. Columns are labeled numerically and rows and next puyos are labeled alphabetically (lowercase and uppercase, respectively).

\begin{verbatim}
% parameters
% - ncols: number of columns (default 6)
% - nrows: number of visible rows (default 12)
% - nhidrows: number of hidden rows (default 1)
% - showlabels: display coordinate labels (default True)

% arguments
% - #1: board format string
% - #2: next puyos format string

% example usage (see image below)
\begin{puyotikz}
  \puyoboard[ncols=12, nrows=6, nhidrows=0]
    {/rr/brbb/ggbg/rrg//yb/ggy}
    {yy/yr}
\end{puyotikz}
\end{verbatim}
The \puyomarker macro takes 1 argument and must be used inside the \puyotikz environment following a \puyo(board macro.

Puyo markers are specified in a single format string, separated by /. A single marker is a concatenation of the row label (lowercase letter), column label (number), puyo color (lowercase letter) and puyo label (uppercase letter).

% arguments
% - #1: marker format string

% example usage (see image below)
\begin{puyotikz}
\puyoboard[ncols=12, nrows=6, nhidrows=0]
{/rr/brbb/ggbg/rrg//yb/ggy}
{yy/yr}
\puyomarker{a1yA/a2yA/b3yB/b4rB}
\end{puyotikz}
The `puyogrid` macro is provided as an example derived from `puyoboard`. It assumes a `puyosmallscale puyotikz` environment and only provides a single argument for the board format string (assuming no next puyos and no markers). It also assumes zero hidden rows and turns off labeling, however any parameters available to set in `puyoboard` are also available in `puyogrid`.

The user is encouraged to construct their own derived macros in similar fashion for their intended purpose.

```latex
\newcommand{\puyogrid}[2][2]{
  \setkeys{puyoboard}{nhidrows=0, showlabels=False}
  \begin{puyotikz}[puyosmallscale]
  \puyoboard[#1]{#2}
  \end{puyotikz}
}

% example usage (see image below)
\puyogrid[nrows=4, ncols=10]{rrr/yyy/gggy/bbbg/pppb/rrrp/yyy/gggy/bbbg/pppb}
```

3 Limitations

3.1 TikZ

The graphics provided in this package are created using TikZ. Having many graphics compiled in a single document will result in a long compilation time. It is recommended in this case to generate images in separately compiled standalone documents and include them in the main document via `\includegraphics`. PythonTeX is not compatible with `\tikzexternalize`.

3.2 PythonTeX

The PythonTeX documentation gives a warning which bears repeating: compiling a document that uses PythonTeX involves executing Python code on your computer therefore you should only compile documents from sources you trust.