tikz-truchet v1.0

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`tikz-truchet` is a package for LaTeX that draws Truchet tiles, as features in the article *Too good to be Truchet* by Colin Beveridge[1].

Before starting, I recommend setting the following tikz options to make your pictures look nicer:

```
\tikzset{x=2cm,y=2cm,line cap=round,line join=round, every picture}
%
```

1 Squares

`\truchetsquare` You can draw square Truchet tile using the command `\truchetsquare`. The following code will produce the output below.

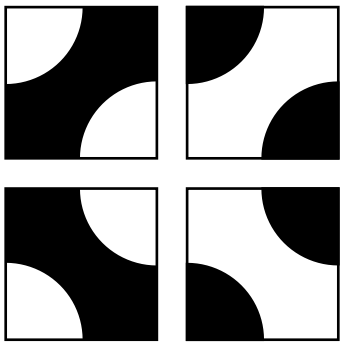
```
\begin{tikzpicture}
  \truchetsquare{b}{w}{b}{w}{b}
\end{tikzpicture}
```

The five inputs of the command are the colour (`b` or `w`) at the centre, the North East, North West, South West, and South East corners (in that order)

You can a square bracketed input to move the tiles. The tiles are 1 unit wide.

```
\begin{tikzpicture}
  \truchetsquare{b}{w}{b}{w}{b}
  \truchetsquare[(1.2,0)]{w}{b}{w}{b}{w}
  \truchetsquare[(0,-1.2)]{b}{b}{w}{b}{w}
  \truchetsquare[(1.2,-1.2)]{w}{w}{b}{w}{b}
\end{tikzpicture}
```

[1] Chalkdust Magazine issue 08, Autumn 2018, `http://chalkdustmagazine.com/features/too-good-to-be-truchet/`



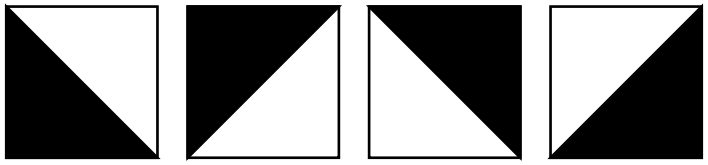
`\diagonalsquare` The command `\diagonalsquare` can be used to draw a square tile that is half white and half black along a diagonal.

```
\begin{tikzpicture}
  \diagonalsquare{x}{w}{x}{b}
\end{tikzpicture}
```

The four inputs are the color (`b` or `w`), or `x` if the colour changes at that corner, of the North East, North West, South West, and South East corners (in that order).

`\tileA` `\tileB` `\tileC` `\tileD` There are only five such tiles. They can be created using the convenience functions `\tileA`, `\tileB`, `\tileC`, and `\tileD`.

```
\begin{tikzpicture}
  \tileA
  \tileB[(1.2,0)]
  \tileC[(2.4,0)]
  \tileD[(3.6,0)]
\end{tikzpicture}
```

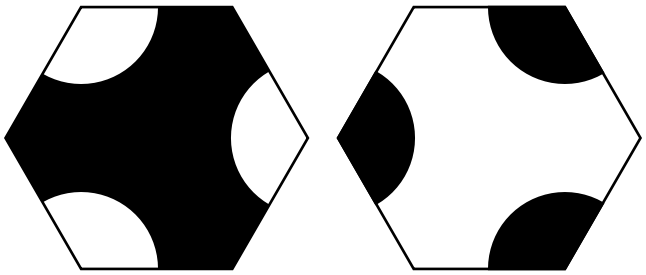


2 Hexagons

To draw hexagonal Truchet tiles, you can use the commands `\truchethex` and `\truchetsplithex`.

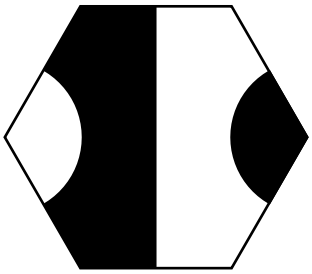
`\truchethex` The command `\truchethex` takes 7 inputs: the colour (`b` or `w`) at the centre, then all the corners starting at the top left and going clockwise. Again an argument can be passed in square brackets to move the tile.

```
\begin{tikzpicture}
  \truchethex{b}{w}{b}{w}{b}{w}{b}
  \truchethex[(2.2,0)]{w}{w}{b}{w}{b}{w}{b}
\end{tikzpicture}
```



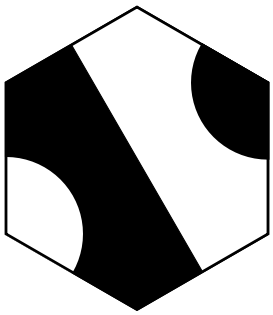
`\truchetsplithex` The command `\truchetsplithex` draws a Truchet tile split in half like the following.

```
\begin{tikzpicture}
  \truchetsplithex
\end{tikzpicture}
```



`rotatehex` The environment `rotatehex` can be used to rotate a hexagonal tile about its centre. The angle should be given in degrees.

```
\begin{tikzpicture}
  \begin{rotatehex}{30}
    \truchetsplithex
  \end{rotatehex}
\end{tikzpicture}
```



3 Cubes

`\truchetcube` The command `\truchetcube` can be used to draw Cubes with differently coloured faces. The six inputs of the command are the colour (`b` or `w`) of the bottom, front, right, back, left, and top faces of the cube (in that order).

```
\begin{tikzpicture}[x=1.2cm,y=1.2cm]
\truchetcube{w}{w}{w}{w}{w}{w}
\truchetcube[(0,-3cm)]{b}{b}{b}{b}{b}{b}
\truchetcube[(2.4cm,0)]{w}{w}{w}{w}{w}{b}
\truchetcube[(2.4cm,-3cm)]{b}{b}{b}{b}{b}{w}
\end{tikzpicture}
```