# pst-turtle

## Turtle graphics; v.0.02

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pst-turtle loads by default the following packages: pstricks, and pst-xkey. All should be already part of your local TeX installation. If not, or in case of having older versions, go to http://www.CTAN.org/ and load the newest version.

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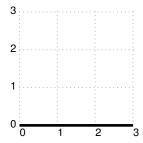
#### 1 Usage

```
\psTurtle [Options] (x_0, y_0) { Turtle\ code}
```

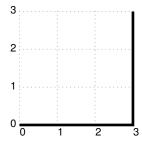
The turle commands must be in PostScript notation, where you can use the short or long version of the commands:

```
/bk { back } bind def
/fd { forward } bind def
/lt { left } bind def
/pd { pendown } bind def
/pu { penup } bind def
/rt { right } bind def
```

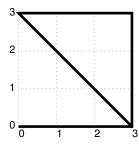
The default unit is cm.



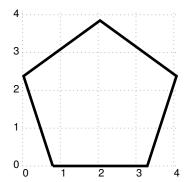
```
\begin{pspicture}[showgrid](3,3)
\psTurtle[linewidth=2pt,arrows=->](0,0){ 3 forward }
\end{pspicture}
```



```
\begin{pspicture}[showgrid](3,3)
\psTurtle[linewidth=2pt,arrows=->](0,0){
  3 fd
  90 left 3 fd }
\end{pspicture}
```



```
\begin{pspicture}[showgrid](3,3)
\psTurtle[linewidth=2pt,arrows=->](0,0){
   3 fd
   90 left 3 fd
   90 left 3 fd
   135 left 18 sqrt fd}
\end{pspicture}
```

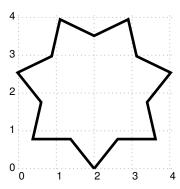


```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](0.8,0){
   5 { 2.5 fd 72 left } repeat
}
\end{pspicture}
```

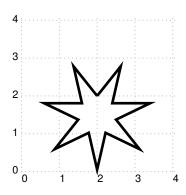
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```
1
0
0 1 2 3 4
```

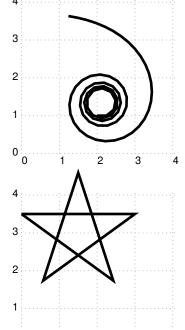
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,1){
   5 { 72 left 1 fd 72 right 1 fd 72 left} repeat
}
\end{pspicture}
```



```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,0){
  /Angle { 360 7 div } bind def
  7 { Angle left 1 fd Angle right 1 fd Angle left} repeat
}
\end{pspicture}
```



```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,2){
  /Angle { 360 7 div } bind def
  7 { Angle left 1 fd Angle 3 mul right 1 fd Angle left} repeat
}
\end{pspicture}
```

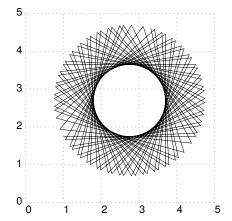


2

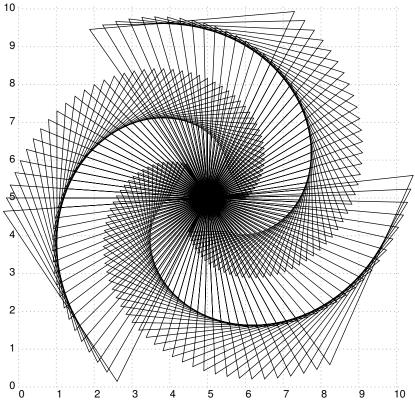
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,1){
  /Angle 40 def
  75 { 0.25 fd Angle left /Angle Angle 0.5 sub def } repeat
}
\end{pspicture}
```

```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](0,3.5){
    5 { 3 fd 144 right } repeat
}
\end{pspicture}
```

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```
\begin{pspicture}[showgrid](5,5)
\psTurtle[linewidth=0.2pt](1,1.75){
  75 { 3.5 fd 123 left } repeat
}
\end{pspicture}
```



#### References

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- [3] Laura E. Jackson **and** Herbert Voß. "Die Plot-Funktionen von pst-plot". **in***Die TeXnische Komödie*: 2/02 (**june** 2002), **pages** 27–34.
- [4] Nikolai G. Kollock. PostScript richtig eingesetzt: vom Konzept zum praktischen Einsatz. Vaterstetten: IWT, 1989.
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- [7] Herbert Voß. PSTricks Grafik für TEX und LATEX. 7 edition. Heidelberg and Berlin, 2016.
- [8] Herbert Voß. PSTricks Graphics for TeX and LaTeX. Cambridge: UIT, 2011.

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- [10] Herbert Voß. Typesetting mathematics with LaTeX. Cambridge: UIT, 2010.
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- [14] Timothy van Zandt and Denis Girou. "Inside PSTricks". in TUGboat: 15 (september 1994), pages 239–246.
- [15] Timothy van Zandt **and** Herbert Voß. pst-plot: Plotting two dimensional functions and data. 1999. URL: /graphics/pstricks/generic/pst-plot.tex.

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