

# **pst-turtle**

## **Turtle graphics; v.0.02**

Herbert Voß

April 13, 2023

### **Contents**

<b>1</b>	<b>Usage</b>	<b>3</b>
	<b>References</b>	<b>5</b>

---

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

Thanks to

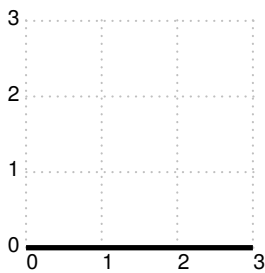
## 1 Usage

```
\psTurtle [Options] (x0, y0) {Turtle code}
```

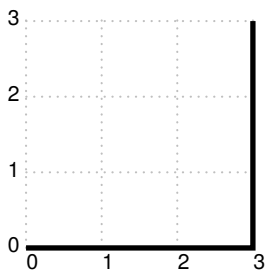
The turtle commands must be in PostScript notation, where you can use the short or long version of the commands:

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

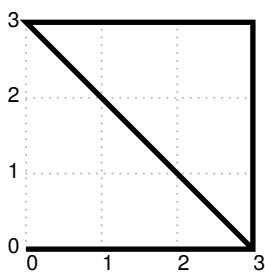
The default unit is cm.



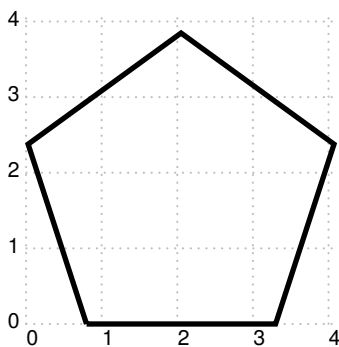
```
\begin{pspicture}[showgrid](3,3)
\psTurtle[linewidth=2pt,arrows=->](0,0){ 3 forward }
\end{pspicture}
```



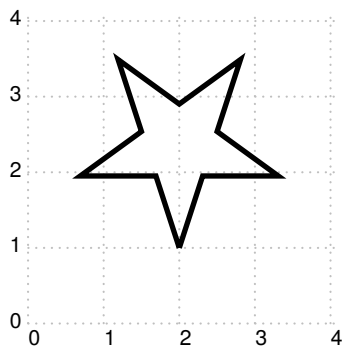
```
\begin{pspicture}[showgrid](3,3)
\psTurtle[linewidth=2pt,arrows=->](0,0){
  3 fd
  90 left 3 fd }
\end{pspicture}
```



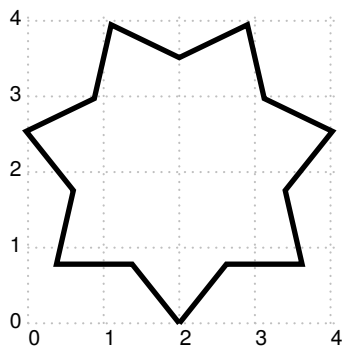
```
\begin{pspicture}[showgrid](3,3)
\psTurtle[linewidth=2pt,arrows=->](0,0){
  3 fd
  90 left 3 fd
  90 left 3 fd
  135 left 18 sqrt fd}
\end{pspicture}
```



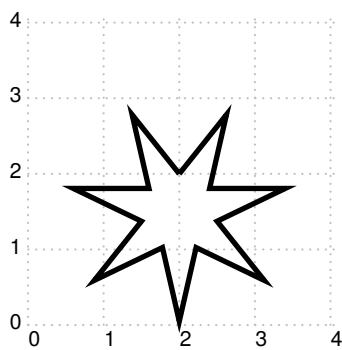
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](0.8,0){
  5 { 2.5 fd 72 left } repeat
}
\end{pspicture}
```



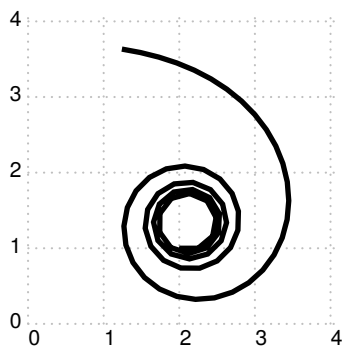
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,1){
  5 { 72 left 1 fd 72 right 1 fd 72 left } repeat
}
\end{pspicture}
```



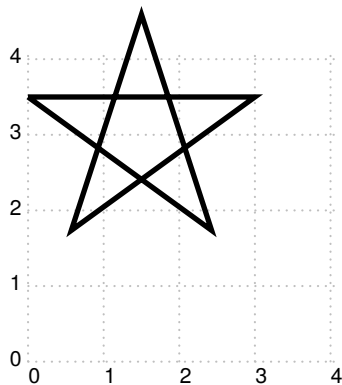
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,0){
  /Angle { 360 7 div } bind def
  7 { Angle left 1 fd Angle right 1 fd Angle left } repeat
}
\end{pspicture}
```



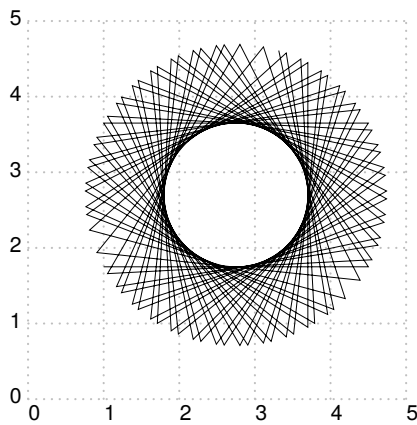
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,2){
  /Angle { 360 7 div } bind def
  7 { Angle left 1 fd Angle 3 mul right 1 fd Angle left } repeat
}
\end{pspicture}
```



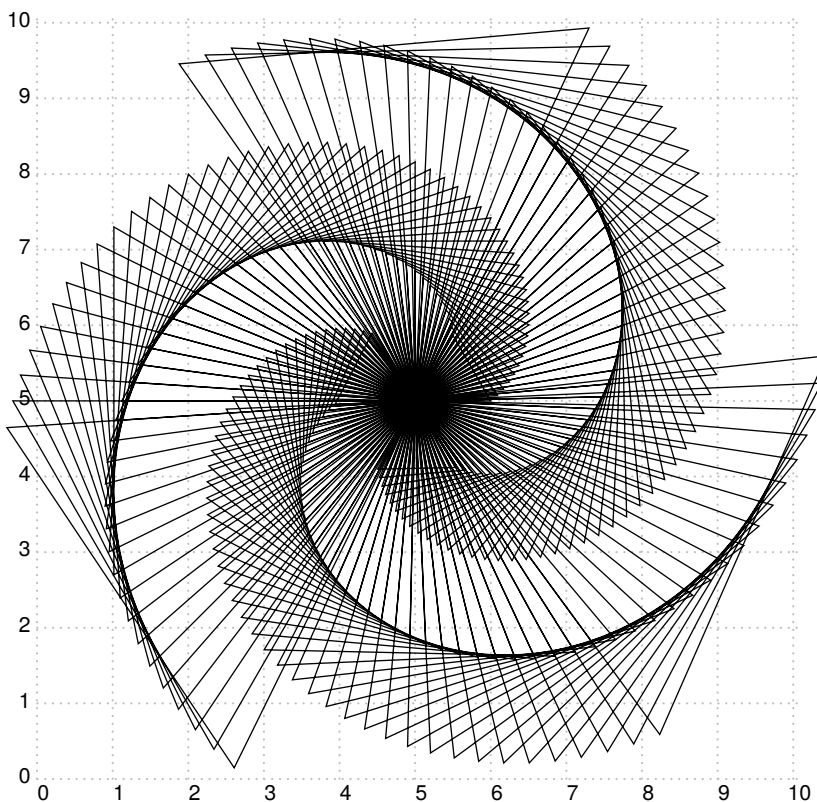
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,1){
  /Angle 40 def
  75 { 0.25 fd Angle left /Angle Angle 0.5 sub def } repeat
}
\end{pspicture}
```



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



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



```
\begin{pspicture}[showgrid](10,10)
\psTurtle[linewidth=0.5pt](5,5){
  /L 1 def
  150 { L fd 120 left L fd 120 left L fd
    /L L 0.03 add def 1.25 rotate }
    repeat
  }
\end{pspicture}
```

## References

- [1] Denis Girou. “Présentation de PSTricks”. in *Cahier GUTenberg*: 16 (april 1994), pages 21–70.
- [2] Michel Goossens **and others**. *The L<sup>A</sup>T<sub>E</sub>X Graphics Companion*. 2 edition. Reading, Mass.: Addison-Wesley Publishing Company, 2007.
- [3] Laura E. Jackson **and** Herbert Voß. “Die Plot-Funktionen von pst-plot”. in *Die T<sub>E</sub>Xnische Komödie*: 2/02 (june 2002), pages 27–34.
- [4] Nikolai G. Kollock. *PostScript richtig eingesetzt: vom Konzept zum praktischen Einsatz*. Vaterstetten: IWT, 1989.
- [5] Herbert Voß. “Die mathematischen Funktionen von PostScript”. in *Die T<sub>E</sub>Xnische Komödie*: 1/02 (march 2002).
- [6] Herbert Voß. *pst-tools – Helper functions*. 2012. URL: [/graphics/pstricks/contrib/pst-tools](https://www.ctan.org/graphics/pstricks/contrib/pst-tools).
- [7] Herbert Voß. *PSTricks – Grafik für T<sub>E</sub>X und L<sup>A</sup>T<sub>E</sub>X*. 7 edition. Heidelberg **and** Berlin, 2016.
- [8] Herbert Voß. *PSTricks – Graphics for T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X*. Cambridge: UIT, 2011.

- [9] Herbert Voß. *LaTeX quick reference*. Cambridge: UIT, 2012.
- [10] Herbert Voß. *Typesetting mathematics with LaTeX*. Cambridge: UIT, 2010.
- [11] Eric Weisstein. *Wolfram MathWorld*. 2007. URL: <http://mathworld.wolfram.com>.
- [12] Timothy van Zandt. *multido.tex - a loop macro, that supports fixed-point addition*. 1997. URL: </graphics/pstricks/generic/multido.tex>.
- [13] Timothy van Zandt. *PSTricks - PostScript macros for generic TeX*. 1993. URL: <http://www.tug.org/application/PSTricks>.
- [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>.

pst-turtle-doc

## Index

### Macro

`\psTurtle`, 3

### Package

`pst-turtle`, 2

`pst-xkey`, 2

`pstricks`, 2

`pst-turtle`, 2

`pst-xkey`, 2

`pstricks`, 2

`\psTurtle`, 3