

# PSTricks

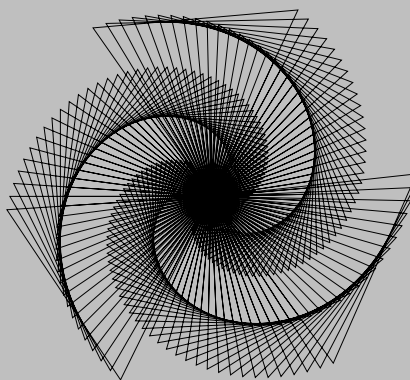
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## **pst-turtle**

Turtle graphics; v.0.02

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September 4, 2021



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`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

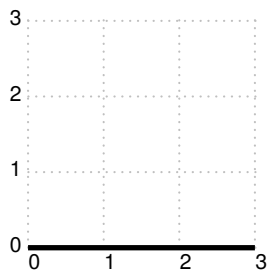
## 1 Usage

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

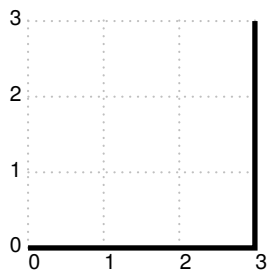
The turtle commands must be in PostScript notation, where you can use the short or long version of the commands:

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

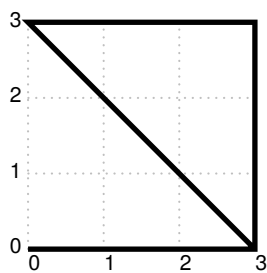
The default unit is cm.



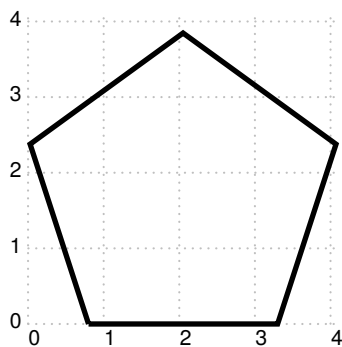
```
\begin{pspicture}[showgrid](3,3)
\psTurtle[linewidth=2pt,arrows=->](0,0){ 3 forward }
\end{pspicture}
```



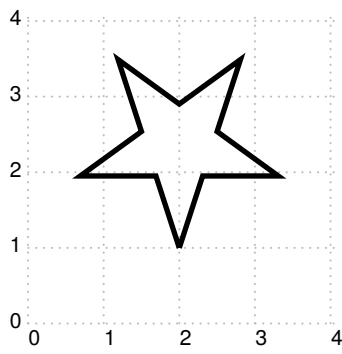
```
\begin{pspicture}[showgrid](3,3)
\psTurtle[linewidth=2pt,arrows=->](0,0){
  3 fd
  90 left 3 fd }
\end{pspicture}
```



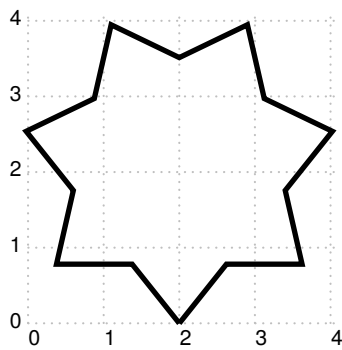
```
\begin{pspicture}[showgrid](3,3)
\psTurtle[linewidth=2pt,arrows=->](0,0){
  3 fd
  90 left 3 fd
  90 left 3 fd
  135 left 18 sqrt fd}
\end{pspicture}
```



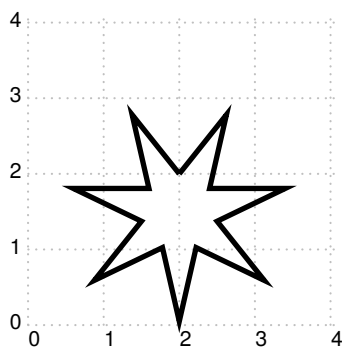
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](0.8,0){
  5 { 2.5 fd 72 left } repeat
}
\end{pspicture}
```



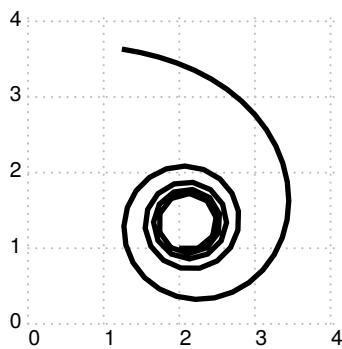
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,1){
  5 { 72 left 1 fd 72 right 1 fd 72 left } repeat
}
\end{pspicture}
```



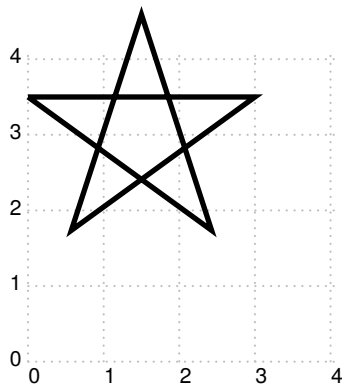
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,0){
  /Angle { 360 7 div } bind def
  7 { Angle left 1 fd Angle right 1 fd Angle left } repeat
}
\end{pspicture}
```



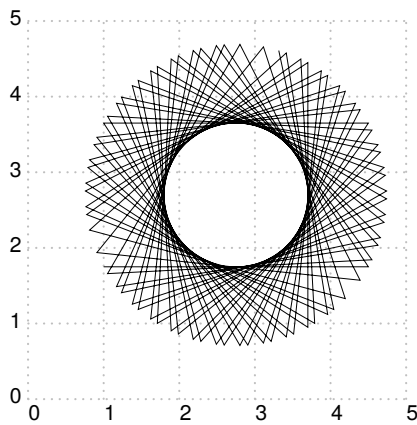
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,2){
  /Angle { 360 7 div } bind def
  7 { Angle left 1 fd Angle 3 mul right 1 fd Angle left } repeat
}
\end{pspicture}
```



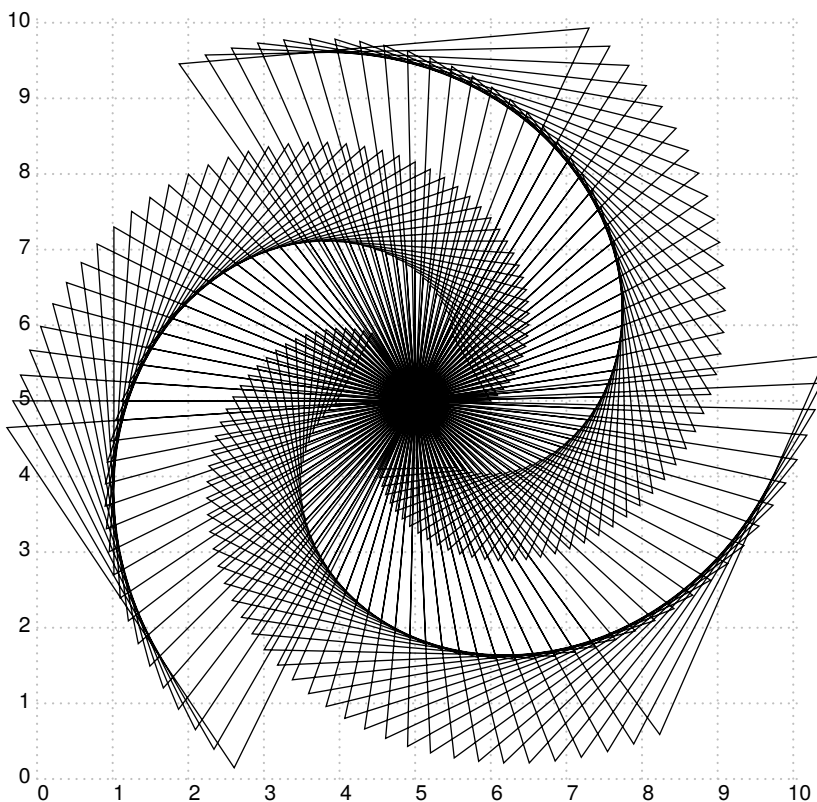
```
\begin{pspicture}[showgrid](4,4)
\psTurtle[linewidth=2pt](2,1){
  /Angle 40 def
  75 { 0.25 fd Angle left /Angle Angle 0.5 sub def } repeat
}
\end{pspicture}
```



```
\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 (Apr. 1994), pp. 21–70.
- [2] Michel Goossens et al. *The L<sup>A</sup>T<sub>E</sub>X Graphics Companion*. 2nd ed. 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), pp. 27–34.
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