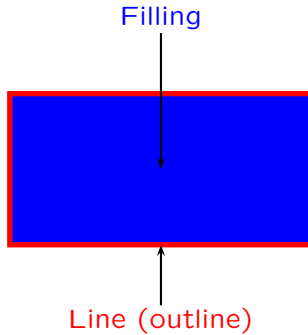


# Colors, Styles, Etc.

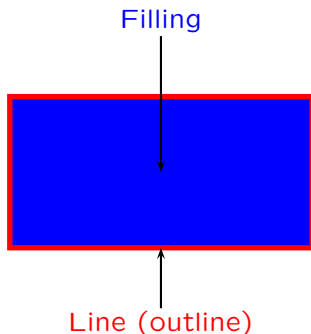
Boris Veytsman

TUG 2008, Cork, Ireland

# 1. Line Styles and Fill Styles

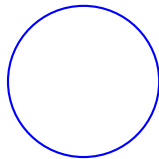


# 1. Line Styles and Fill Styles

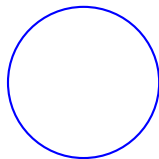


```
\begin{pspicture}(8,6)
  \psframe[linecolor=red,linewidth=2pt,
  fillstyle=solid,fillcolor=blue](2,2)(6,4)
  \rput(4,1){\textcolor{red}{Line (outline)}}
  \psset{arrows=->}
  \psline(4,1.2)(4,2)
  \rput(4,5){\textcolor{blue}{Filling}}
  \psline(4,4.8)(4,3)
\end{pspicture}
```

```
\begin{pspicture}(3,3)
  \pscircle[linestyle=solid,
    linecolor=blue](1.5,1.5){1}
\end{pspicture}
```



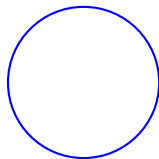
```
\begin{pspicture}(3,3)
  \pscircle[linestyle=solid,
    linecolor=blue](1.5,1.5){1}
\end{pspicture}
```



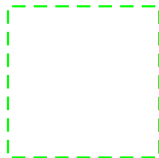
```
\begin{pspicture}(3,3)
  \psframe[linestyle=dashed,
    linecolor=green](0.5,0.5)(2.5,2.5)
\end{pspicture}
```



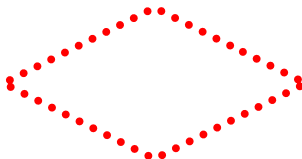
```
\begin{pspicture}(3,3)
  \pscircle[linestyle=solid,
    linecolor=blue](1.5,1.5){1}
\end{pspicture}
```



```
\begin{pspicture}(3,3)
  \psframe[linestyle=dashed,
    linecolor=green](0.5,0.5)(2.5,2.5)
\end{pspicture}
```

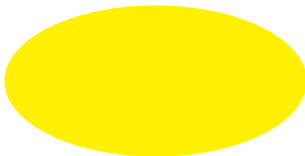


```
\begin{pspicture}(3,3)
  \psdiamond[linestyle=dotted,
    linecolor=red,
    linewidth=3pt](1.5,1.5)(2,1)
\end{pspicture}
```



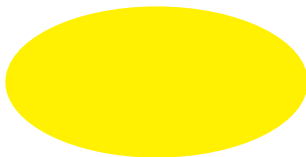
Sometimes we do not want to draw the border at all:

```
\begin{pspicture}(3,3)
  \psellipse[linestyle=none,
  fillstyle=solid,
  fillcolor=yellow](1.5,1.5)(2,1)
\end{pspicture}
```



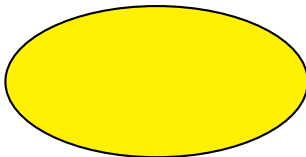
Sometimes we do not want to draw the border at all:

```
\begin{pspicture}(3,3)
  \psellipse[linestyle=none,
  fillstyle=solid,
  fillcolor=yellow](1.5,1.5)(2,1)
\end{pspicture}
```



Compare with

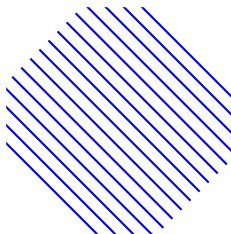
```
\begin{pspicture}(3,3)
  \psellipse[linestyle=solid,
  fillstyle=solid,
  fillcolor=yellow](1.5,1.5)(2,1)
\end{pspicture}
```





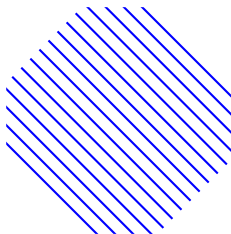
There are many filling styles:

```
\begin{pspicture}(3,3)
  \pspolygon[linestyle=none,
    fillstyle=vlines,
    hatchcolor=blue](0,1)(0,2)(1,3)%
    (2,3)(3,2)(3,1)(2,0)(1,0)
\end{pspicture}
```

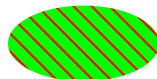


There are many filling styles:

```
\begin{pspicture}(3,3)
  \pspolygon[linestyle=none,
    fillstyle=vlines,
    hatchcolor=blue](0,1)(0,2)(1,3)%
    (2,3)(3,2)(3,1)(2,0)(1,0)
\end{pspicture}
```

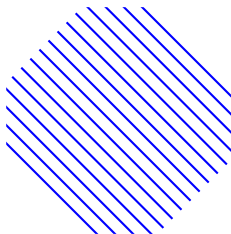


```
\begin{pspicture}(3,3)
  \psellipse[linestyle=none,
    fillstyle=vlines*,
    hatchcolor=blue,
    fillcolor=green](1.5,1.5)(1,0.5)
\end{pspicture}
```

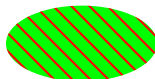


There are many filling styles:

```
\begin{pspicture}(3,3)
  \pspolygon[linestyle=none,
  fillstyle=vlines,
  hatchcolor=blue](0,1)(0,2)(1,3)%
  (2,3)(3,2)(3,1)(2,0)(1,0)
\end{pspicture}
```



```
\begin{pspicture}(3,3)
  \psellipse[linestyle=none,
  fillstyle=vlines*,
  hatchcolor=blue,
  fillcolor=green](1.5,1.5)(1,0.5)
\end{pspicture}
```



```
\begin{pspicture}(3,3)
  \psframe[linestyle=none,
  fillstyle=hlines,
  hatchcolor=cyan](0.5,0.5)(2.5,2.5)
\end{pspicture}
```



Actually, hlines and vlines are redundant:

```
\begin{pspicture}(3,3)
  \pscircle[linestyle=none,
    fillstyle=vlines,
    hatchangle=90,
    hatchcolor=red](1.5,1.5){1.5}
\end{pspicture}
```



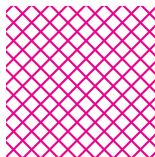
Actually, hlines and vlines are redundant:

```
\begin{pspicture}(3,3)
  \pscircle[linestyle=none,
    fillstyle=vlines,
    hatchangle=90,
    hatchcolor=red](1.5,1.5){1.5}
\end{pspicture}
```



The stlye crosshatch:

```
\begin{pspicture}(3,3)
  \psframe[linestyle=none,
    fillstyle=crosshatch,
    hatchcolor=magenta](0.5,0.5)(2.5,2.5)
\end{pspicture}
```



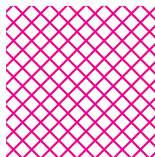
Actually, hlines and vlines are redundant:

```
\begin{pspicture}(3,3)
  \pscircle[linestyle=none,
    fillstyle=vlines,
    hatchangle=90,
    hatchcolor=red](1.5,1.5){1.5}
\end{pspicture}
```

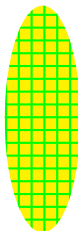


The stlye crosshatch:

```
\begin{pspicture}(3,3)
  \psframe[linestyle=none,
    fillstyle=crosshatch,
    hatchcolor=magenta](0.5,0.5)(2.5,2.5)
\end{pspicture}
```

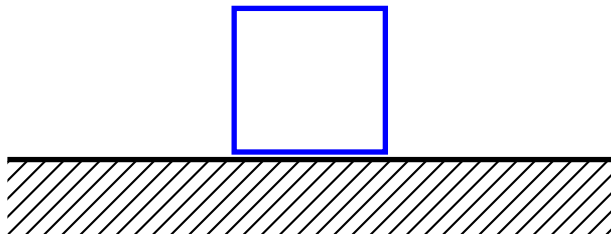


```
\begin{pspicture}(3,3)
  \psellipse[linestyle=none,
    fillstyle=crosshatch*,
    hatchcolor=green, hatchangle=90,
    fillcolor=yellow](1.5,1.5)(0.5,1.5)
\end{pspicture}
```



## 2. Using psset

```
\psset{linestyle=solid, linewidth=2pt}  
\psline(0,1)(8,1)  
\psframe[linestyle=none,fillstyle=hlines](0,0)(8,1)  
\psframe[linecolor=blue](3,1.1)(5,3)
```



```
\psset{linewidth=1pt}
```

```
\psline(2.8,1.6)(2.6,1.35)
```

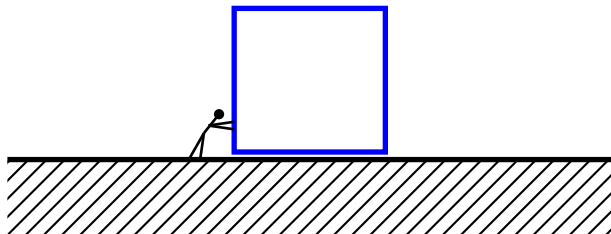
```
\psline(2.6,1.35)(2.55,1)
```

```
\psline(2.6,1.35)(2.4,1)
```

```
\psline(2.66,1.45)(3,1.4)
```

```
\psline(2.66,1.45)(3,1.5)
```

```
\pscircle[fillstyle=solid, fillcolor=black](2.8,1.6){0.05}
```





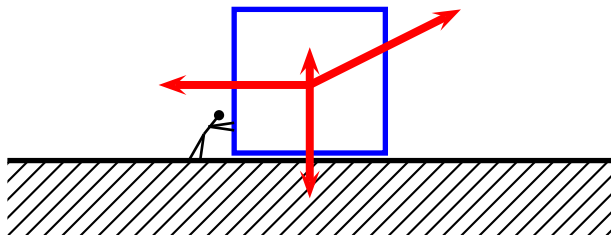
```
\psset{arrows=->, linecolor=red, linewidth=3pt}
```

```
\psline(4,2)(6,3)
```

```
\psline(4,2)(2,2)
```

```
\psline(4,2)(4,0.5)
```

```
\psline(4,2)(4,2.5)
```



### 3. Colors

There are several predefined grayscale:

 black  darkgray  gray  lightgray  white

And several predefined colors:

 red  green  blue  cyan  magenta  yellow

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 orange  lime  violet ...

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

And several predefined colors:

 red  green  blue  cyan  magenta  yellow

However, `\usepackage{xcolor}` gives you much more!

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With this package you can mix colors:  red!50!yellow  red!60!black

Create color expressions: -black -red!50!white

### 3. Colors



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

And several predefined colors:

 red  green  blue  cyan  magenta  yellow

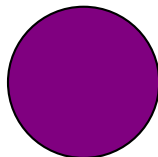
However, `\usepackage{xcolor}` gives you much more!

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With this package you can mix colors:  red!50!yellow  red!60!black

Create color expressions:  -black  -red!50!white

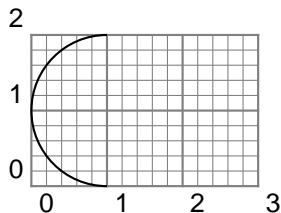
```
\begin{pspicture}(3,3)
  \pscircle[fillstyle=solid,
    fillcolor=blue!50!red](1.5,1.5){1}
\end{pspicture}
```



## 4. Custom Graphics

Circles, triangles, ellipses. . . How about our own graphics?

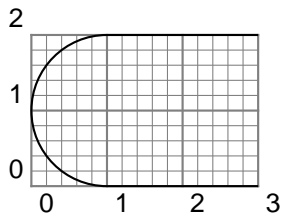
```
\begin{pspicture}(3,2)
  \psgrid[gridcolor=gray]
  \pscustom{%
    \psarcn(1,1){1}{-90}{90}%
  }
\end{pspicture}
```



```

\begin{pspicture}(3,2)
  \psgrid[gridcolor=gray]
  \pscustom{%
    \psline(3,0)(1,0)%
    \psarcn(1,1){1}{-90}{90}%
    \psline(1,2)(3,2)%
  }

```

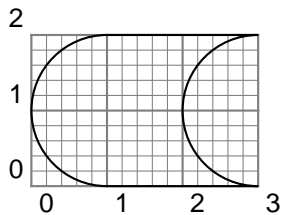




```

\begin{pspicture}(3,2)
  \psgrid[gridcolor=gray]
  \pscustom{%
    \psline(3,0)(1,0)%
    \psarcn(1,1){1}{-90}{90}%
    \psline(1,2)(3,2)%
    \psarc(3,1){1}{90}{270}%
  }

```



```
\begin{pspicture}(3,2)
  \pscustom[fillstyle=solid,fillcolor=red]{%
    \psline(3,0)(1,0)%
    \psarcn(1,1){1}{-90}{90}%
    \psline(1,2)(3,2)%
    \psarc(3,1){1}{90}{270}%
  }
\end{pspicture}
```

