PSTricks

News - 2011

new macros and bugfixes for the basic package `pstricks`

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Part I.
pstricks – package

1. General

There exists a new document class `pst-doc` for writing PSTricks documentations, like this news document. It depends on the KOMA-Script document class `scrartcl`. `pst-doc` defines a lot of special macros to create a good index. Take one of the already existing package documentation and look into the source file. Then it will be easy to understand, how all these macros have to be used.

When running `pdflatex` the title page is created with boxes and inserted with the macro `\AddToShipoutPicture` from the package `eso-pic`. It inserts the background title page image `pst-doc-pdf` to use directly `pdflatex`. When running `latex` the title page is created with `PSTricks` macros.This allows to use the Perl script `pst2pdf` or the package `pst-pdf` or `auto-pst-pdf` or any other program/package which supports `PostScript` code in the document.

2. pstricks.sty

2.1. New optional argument

3. pstricks.tex (2.23– 2011/09/04)

3.1. Macro \psLoop

`PSTricks` already knows `\psforeach` and `\psForeach` for loops. The new macro `\psLoop` allows a loop without defining a variable: 2.17

`\psLoop{`*n*`}{`*argument*`}`

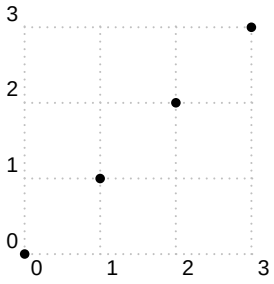
However, the internal TEX counter `psLoopIndex` can be used for own purposes.

PSTricks PSTricks PSTricks PSTricks

```
\psLoop{4}{PSTricks }
```

PSTricks	PSTricks	PSTricks	
A	B	C	D

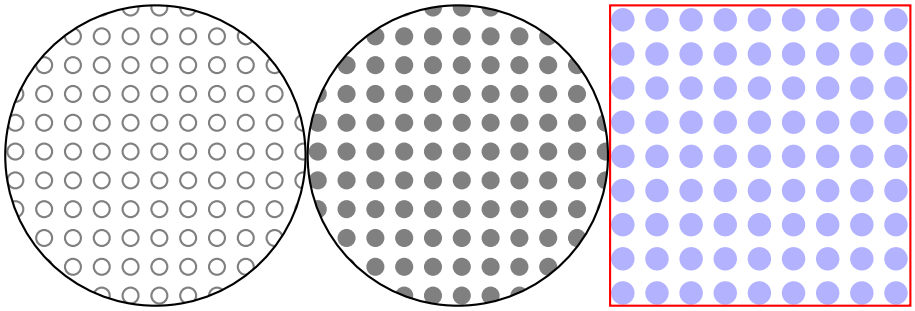
```
\tabular{|c|c|c|c|}
  \psLoop{3}{PSTricks &}\\\hline
  A & B & C & D\\\hline
\endtabular
```




```
\begin{pspicture}[showgrid](3,3)
\psLoop{4}{%
  \psdots(\the\psLoopIndex,\the\psLoopIndex)}
\end{pspicture}
```

3.2. New fillstyle dots

Instead of using the package `pst-fill` one can now use the fill style `dots`. The valid parameters are `hatchsep` for the distance of two dots, `hatchwidth` for the radius of the filled dot, and `hatchcolor` for the dot color.



```
\begin{pspicture}(-2,-2)(10,2)
\pscircle[hatchcolor=gray,hatchsep=10pt,hatchwidth=3pt,fillstyle=dots]{2}
\pscircle[hatchcolor=gray,hatchsep=10pt,hatchwidth=3pt,fillstyle=dots*](4,0)
  {2}
\psframe[hatchcolor=blue!30,linecolor=red,hatchsep=12pt,hatchwidth=4pt,
      fillstyle=dots*](6,-2)(10,2)
\end{pspicture}
```

4. The PostScript header files

4.1. pstricks.pro

There is a new subroutine `DotFill`:

```

/DotFill {% on stack: dot radius
  /dotRadius ED
  abs CLW add /a ED
  a 0 dtransform round exch round exch
  2 copy idtransform
  exch Atan rotate
  idtransform pop /a ED
  .25 .25 itransform
  pathbbox % llx lly urx ury of smallest bounding box
  /y2 ED /x2 ED /y1 ED /x1 ED
  y2 y1 sub a div 2 add cvi /Ny ED
  x2 x1 sub a div 2 add cvi /Nx ED
  clip
  newpath
  /yA y1 dotRadius add CLW add def
  /xA0 x1 dotRadius add CLW add def
  Ny {
    /xA xA0 def
    Nx {
      newpath
      xA yA dotRadius 0 360 arc
```

```
      SolidDot { gsave fill grestore } if
      stroke
      xA a add /xA ED
    } repeat
    yA a add /yA ED
  } repeat
  grestore
} def
```

5. List of all optional arguments for pstricks

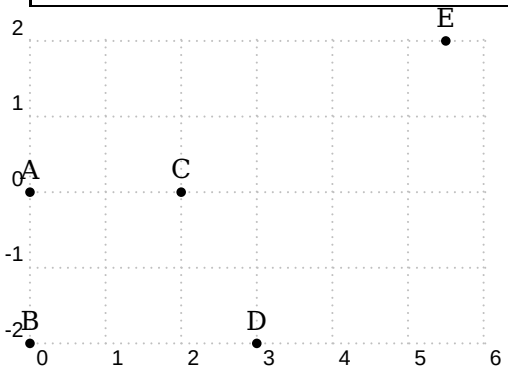
Key	Type	Default

Part II.
Other packages

6. pst-node – version 1.20 | 2011/08/20

The command \pnode now knows an optional argument for an offset, which expects two values (x,y) separated by a comma:

\pnode [⟨*offset*⟩] (*x*,*y*){⟨*node name*⟩}




```
\begin{pspicture}[showgrid](0,-2)(6,2)
\pnode{A}\psdot(A)\uput[90](A){A}
\pnode[0,-2]{B}\psdot(B)\uput[90](B){B}
\pnode(2,0){C}\psdot(C)\uput[90](C){C}
\pnode[1,-2](2,0){D}\psdot(D)\uput[90](D){D}
\pnode[2,2](3.5,0){E}\psdot(E)\uput[90](E){E
  }
\end{pspicture}
```

References

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