PSTricks

pst-abspos

A PSTricks package for using abolute or relative coordinates of a page; v.0.2

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PostScript Origin

Text Origin A Nonsense text line with `\noindent`.

1 Introduction

The package `pst-abspos` allows absolute positioning of objects. In TeX the actual "cursor" position is the origin of the paper plane. This makes it difficult to put objects into absolute positions. The only constant position is the origin of the paper plane, the upper left corner, which is 1 inch right and 1 inch down. This absolute PostScript origin is not the one for the textarea of TeX, because it adds the horizontal margins `\oddsidemargin` and for the first line `\parskip`. In the vertical direction there are added `\topskip`, `\headheight` and `\headsep`. This is a bit confusing because there are different origins of the paper plane:

- the upper left corner of the paper

- the PostScript origin 1 inch from left and 1 inch from top

- the TeX origin, adding `\oddsidemargin` or `\evensidemargin` to 1 inch and substract `\topskip`, `\headheight` and `\headsep` from the top

- the TeX relative origin, which describes the actual "cursor" position, like here: "Cursor" Origin

2 Package Options

`notitlepage`	When there is no titlepage it is easier to run the initialisation macros. In this case the user has only to set the package option.
`absolute`	the origin is the upper left paper corner
`lowerleft`	the origin is mirrored to the lower left of the paper plane
`PostScript`	the origin is 1inch from the left and 1 inch from the top of the paper
`relative`	the origin is the upper left text area

Especially the `lowerleft` option may be useful. Together with the `absolute` option the origin of the paper plane is at the lower left corner (see section 8).

3 The Macros

The package tries to set the origin immediately after a newpage. This is not possible with a title because of an additional `\newpage` of the `titlepage` environment. In this case the user should controll the setting manually with the macros

`\pstSetAbsoluteOrigin`	the new origin is the upper left corner of the paper
`\pstSetPostScriptOrigin`	the new origin is 1 inch from left and 1 inch from top of the upper left corner of the paper
`\pstSetRelativeOrigin(`x,y`)`	the new origin is the current point for $(0; 0)$. All other values are relative to this one.
`\pstPutAbs [Options] (`x,y`){`*object*`}`	puts any object depending to the option at $(x; y)$.

The first two macros have to be used immediately after a newpage.

3.1 Optional Parameters

The \pstPutAbs macro can be called with all vaild pstricks options and additionally with position=position, where *position* can be replaced by the usual placing values lt, lC, lB, lb, ... of the well known \rput macro. Important is the setting of the unit parameter, because pst-abspos knows nothing about the unit. A valid call may be like

```
\pstPutAbs[unit=1in,position=lC](1,-1){%
  \qdisk(0,0){5pt}\textcolor{red}{~PostScript Origin}}
```

4 Examples

It is no problem to switch between the different origin settings when calling the macros immediately aften a \newpage. If you want to set the origin at the "cursor" position, then the macro can be called just on "cursor" position.

Point(0,-1)

5 Absolute Coordinates

Point(0,-2)   Point(The2)point (0,0) is in the upper left corner and is set by the package option `absolute`.

> \usepackage[*absolute*]{*pst-abspos*}

Nonsense Text\pstPutAbs(1,-2){\qdisk(0,0){4pt}\red Point(1,-2)}
Nonsense Text
Nonsense Text\pstPutAbs(0,-2){\qdisk(0,0){4pt}\red Point(0,-2)}
Nonsense Text
Nonsense Text\pstPutAbs(0,-1){\qdisk(0,0){4pt}\red Point(0,-1)} \pstPutAbs(1,-10){\sc
\pstPutAbs(1,-10){\qdisk(0,0){4pt}\red Point(1,-10)}

Point(3,-5)

blah blub laber text nonsense blah blub laber text nonsense blah blub laber text non-
sense blah blub laber text nonsense \pstPutAbs(3,0.5){\qdisk(0,0){4pt}\blue
Point(3,0.5)}blah blub laber text nonsense blah blub laber text non-
sense blah blub laber text nonsense blah blub laber text nonsense
\pstPutAbs(3,-5){\qdisk(0,0){4pt}\blue Point(3,-5)}blah blub laber text
nonsense blah blub laber text nonsense blah blub laber text nonsense

Point(1,-10)

Origin ●

6 Relative Coordinates

The point (0,0) is set as the relative origin and is set by the package option `relative`.

● Point(0,-1)

```
\usepackage[relative]{pst-abspos}
```

This relative point is the beginning of the first textline, which depends to all margins. It allows to place the relative origin elsewhere depending to the relative point (0,0).

● Point(0,-2) ● Point(1,-2)

Nonsense Text`\pstPutAbs(1,-2){\qdisk(0,0){4pt}\red Point(1,-2)}`
Nonsense Text

Nonsense Text`\pstPutAbs(0,-2){\qdisk(0,0){4pt}\red Point(0,-2)}`

Nonsense Text

Nonsense Text`\pstPutAbs(0,-1){\qdisk(0,0){4pt}\red Point(0,-1)}` `\pstPutAbs(1,-10){\sc`
`\pstPutAbs(1,-10){\qdisk(0,0){4pt}\red Point(1,-10)}`

● Point(3,-5)

blah blub laber text nonsense blah blub laber text nonsense blah blub laber text nonsense blah blub laber text nonsense `\pstPutAbs(3,0.5){\qdisk(0,0){4pt}\blue Point(3,0.5)}`blah blub laber text nonsense blah blub laber text nonsense blah blub laber text nonsense blah blub laber text nonsense `\pstPutAbs(3,-5){\qdisk(0,0){4pt}\blue Point(3,-5)}`blah blub laber text nonsense blah blub laber text nonsense blah blub laber text nonsense

pst-abspos

● Point(1,-10)

Point(3,0.5)

Origin

7 PostScript Origin

Point(1,-1) The point (1in,-1in) is set as the absolue PostScript origin and is set by the package option `relative`.

`\usepackage[PostScript]{pst-abspos}`

Point(0,-2)   Point(1,-2) The coordinates (1in; -1in) have some historical background and have nowadays no more real sense. If all horizontal and vertical margins inside T$_E$X are set to zero, then this point is (0,0).

Nonsense Text\pstPutAbs(1,-2){\qdisk(0,0){4pt}\red Point(1,-2)}
Nonsense Text
Nonsense Text\pstPutAbs(0,-2){\qdisk(0,0){4pt}\red Point(0,-2)}
Nonsense Text
Nonsense Text\pstPutAbs(0,-1){\qdisk(0,0){4pt}\red Point(0,-1)} \pstPutAbs(1,-10){\sc
\pstPutAbs(1,-10){\qdisk(0,0){4pt}\red Point(1,-10)}

Point(3,-5)

blah blub laber text nonsense blah blub laber text nonsense blah blub laber text nonsense blah blub laber text nonsense \pstPutAbs(3,0.5){\qdisk(0,0){4pt}\blue Point(3,0.5)}blah blub laber text nonsense blah blub laber text nonsense blah blub laber text nonsense blah blub laber text nonsense \pstPutAbs(3,-5){\qdisk(0,0){4pt}\blue Point(3,-5)}blah blub laber text nonsense blah blub laber text nonsense blah blub laber text nonsense

pst-abspos

Point(1,-10)

8 Absolute Coordinates with an Origin in the Lower Left

The point (0,0) is in the lower left corner and is set by the package option `lowerLeft`. This is only useful for absolute coordinates. This is the reason why this option should implie also the option `absolute`.

```
\Lcs{usepackage}\Largs{lowerLeft,absolute}\Largb{pst-abspos}
\end{BDef}
```

```
\psset{unit=1in}%
\pstPutAbs(0,0){\qdisk(0,0){4pt}\rput(0,0){\red Origin}}%
Nonsense Text\pstPutAbs(1,2){\qdisk(0,0){4pt}\red Point(1,2)}%
\verb|\pstPutAbs(1,2){\qdisk(0,0){4pt}\red Point(1,2)}|\\
Nonsense Text\\
Nonsense Text\pstPutAbs(0,2){\qdisk(0,0){4pt}\red Point(0,2)}%
\verb|\pstPutAbs(0,2){\qdisk(0,0){4pt}\red Point(0,2)}|\\
Nonsense Text\\
Nonsense Text\pstPutAbs(0,1){\qdisk(0,0){4pt}\red Point(0,1)}%
\verb|\pstPutAbs(0,1){\qdisk(0,0){4pt}\red Point(0,1)}|
\pstPutAbs(1,10){\scalebox{8}{\textcolor{myGray}{pst-abspos}}}
\pstPutAbs(1,10){\qdisk(0,0){4pt}\red Point(1,10)}%
\verb|\pstPutAbs(1,10){\scalebox{8}{\textcolor{myGray}{pst-abspos}}}|\\
\verb|\pstPutAbs(1,10){\qdisk(0,0){4pt}\red Point(1,10)}|\\

\vspace*{\fill}
\parbox{\textwidth}{%
  \x\x\x\x\textcolor{red}{\texttt{\textbackslash pstPutAbs(3,-0.5)\{\textbackslash q
  \pstPutAbs(3,-0.5){\qdisk(0,0){4pt}\blue Point(3,-0.5)}\x\x\x\x%
  \texttt{\textcolor{red}{\textbackslash pstPutAbs(3,5)\{\textbackslash qdisk(0,0)\{
  \pstPutAbs(3,5){\qdisk(0,0){4pt}\blue Point(3,5)}}

\newpage
\pstSetPostScriptOrigin

\section{Absolute PostScript Coordinates with an Origin in the Lower Left}
The origin point (0,0) is in the lower left corner with 1in from the left and 1inch
from the bottom and is set by the package option
\Loption{lowerLeft}. This is only useful for \Index{absolute coordinate}s.

\begin{Xverbatim{\xLcs{usepackage}\xLoption{lowerLeft}\xLoption{PostScript}}
\usepackage[lowerLeft,PostScript]{pst-abspos}
```

Nonsense Text\pstPutAbs(1,2){\qdisk(0,0){4pt}\red Point(1,2)}

Nonsense Text

Point(0,2)

Nonsense Text\pstPutAbs(0,2){\qdisk(0,0){4pt}\red Point(0,2)}
Nonsense Text
Nonsense Text\pstPutAbs(0,1){\qdisk(0,0){4pt}\red Point(0,1)} \pstPutAbs(1,10){\scale
\pstPutAbs(1,10){\qdisk(0,0){4pt}\red Point(1,10)}

Point(0,1)

blah blub laber text nonsense blah blub laber text nonsense blah blub laber text non-
sense blah blub laber text nonsense \pstPutAbs(3,-0.5){\qdisk(0,0){4pt}\blue
Point(3,-0.5)}blah blub laber text nonsense blah blub laber text non-
sense blah blub laber text nonsense blah blub laber text nonsense
\pstPutAbs(3,5){\qdisk(0,0){4pt}\blue Point(3,5)}blah blub laber text non-
sense blah blub laber text nonsense blah blub laber text nonsense

9 List of all optional arguments for `pst-abspos`

Key	Type	Default
position	ordinary	[none]

Point(3,-0.5)

References

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