pst-grid

plotting a background grid

v.0.11

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This package allows to place a grid in the background of any text or math. It has one optional argument `varwidth`, which enables the package to use the `varwidth` package and the environment of the same name instaed of using the `minipage` environment.

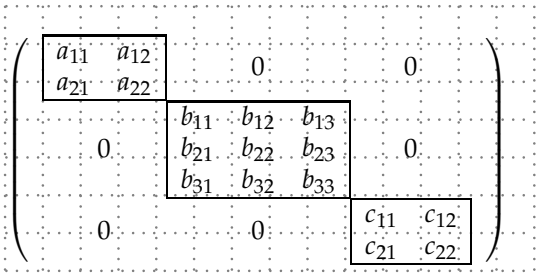
The package provides only one environment:

```
\begin{dogrid}[width][<options>]
 ...
\end{dogrid}
```

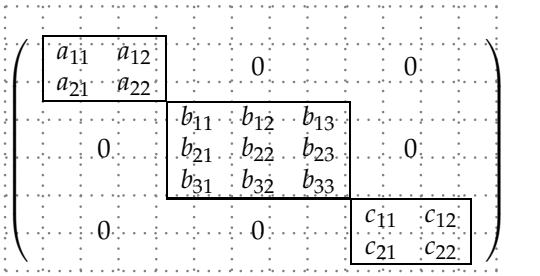
Both arguments are optional, but when using the second one then the first one must be at least empty but present. Otherwise you'll get an error, because the first optional argument must contain a length or be empty. If it is missing or empty, then `\columnwidth` is assumed. The grid is preset with the followinmg arguments:

```
1 \psset[pst-grid]{Gtrim=0 0}% no trim
2 \psset[pst-grid]{gridskip=0.5cm}
3 \psset{linecolor=black!50,linestyle=dotted,linewidth=1pt}
```

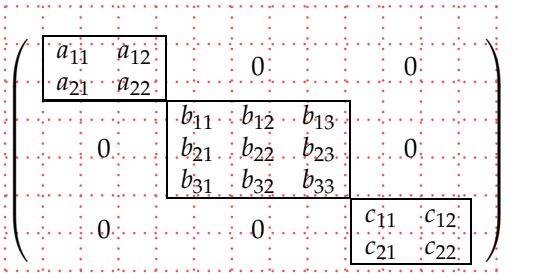
All settings can be overwritten in the usual way by using the optional argument. Thge `Gtrim` option can be used to add or substract some more line of squares to the grid. Negative values are possible. The `gridskip` value is added as vertical space after placing the grid.



```
\begin{dogrid}
\[ \left(
\begin{array}{c@{}c@{}c}
\begin{array}{|cc|}\hline
a_{11} & a_{12} \\
a_{21} & a_{22} \\\hline
\end{array} & 0 & 0 \\
0 & \begin{array}{|ccc|}\hline
    b_{11} & b_{12} & b_{13}\\
    b_{21} & b_{22} & b_{23}\\
    b_{31} & b_{32} & b_{33}\\\hline
    \end{array} & 0 \\
0 & 0 & \begin{array}{|cc|}\hline
        c_{11} & c_{12} \\
        c_{21} & c_{22} \\\hline
        \end{array} \\
\end{array}\right)\]
\end{dogrid}
```



```
\begin{dogrid}[][Gtrim=-1 0]
\[ \left(
\begin{array}{c@{}c@{}c}
\begin{array}{|cc|}\hline
a_{11} & a_{12} \\
a_{21} & a_{22} \\\hline
\end{array} & 0 & 0 \\
0 & \begin{array}{|ccc|}\hline
    b_{11} & b_{12} & b_{13}\\
    b_{21} & b_{22} & b_{23}\\
    b_{31} & b_{32} & b_{33}\\\hline
    \end{array} & 0 \\
0 & 0 & \begin{array}{|cc|}\hline
        c_{11} & c_{12} \\
        c_{21} & c_{22} \\\hline
        \end{array} \\
\end{array}\right)\]
\end{dogrid}
```



```
\begin{dogrid}[][Gtrim=-1 0,linecolor=red
  !70]
\[ \left(
\begin{array}{c@{}c@{}c}
\begin{array}{|cc|}\hline
a_{11} & a_{12} \\
a_{21} & a_{22} \\\hline
\end{array} & 0 & 0 \\
0 & \begin{array}{|ccc|}\hline
    b_{11} & b_{12} & b_{13}\\
    b_{21} & b_{22} & b_{23}\\
    b_{31} & b_{32} & b_{33}\\\hline
    \end{array} & 0 \\
0 & 0 & \begin{array}{|cc|}\hline
        c_{11} & c_{12} \\
        c_{21} & c_{22} \\\hline
        \end{array} \\
\end{array}\right)\]
\end{dogrid}
```

$$
\begin{array}{rcll}
y & = & x^2+bx+c & \\
& = & x^2+2\cdot\frac{b}{2}x+c & \\
& = & \underbrace{x^2+2\cdot\frac{b}{2}x+\left(\frac{b}{2}\right)^2}_{\left(x+\frac{b}{2}\right)^2}-\left(\frac{b}{2}\right)^2+c & \\
& = & \left(x+\frac{b}{2}\right)^2-\left(\frac{b}{2}\right)^2+c & \left|+\left(\frac{b}{2}\right)^2-c\right. \\
y+\left(\frac{b}{2}\right)^2-c & = & \left(x+\frac{b}{2}\right)^2 & \left|(\text{Scheitelpunktform})\right. \\
y-y_S & = & (x-x_S)^2 & \\
S(x_S;y_S) & \text{bzw.} & S\left(-\frac{b}{2};\left(\frac{b}{2}\right)^2-c\right) &
\end{array}
$$

```
\begin{dogrid}[][linestyle=solid,linecolor=black!20]
\[\begin{array}{rcll}
y & = & x^{2}+bx+c\\
  & = & x^{2}+2\cdot{\displaystyle\frac{b}{2}x+c}\\
  & = & \underbrace{x^{2}+2\cdot\frac{b}{2}x+\left(\frac{b}{2}\right)^{2}}-
    {\displaystyle \left(\frac{b}{2}\right)^{2}+c}\\
 &  & \qquad\left(x+{\displaystyle \frac{b}{2}}\right)^{2}\\
 & = & \left(x+{\displaystyle \frac{b}{2}}\right)^{2}-
    \left({\displaystyle \frac{b}{2}}\right)^{2}+c &
    \left|+\left({\displaystyle \frac{b}{2}}\right)^{2}-c\right.\\
y+\left({\displaystyle \frac{b}{2}}\right)^{2}-c & = & \left(x+
    {\displaystyle \frac{b}{2}}\right)^{2} & \left|(\textrm{Scheitelpunktform})\right.\\
y-y_{S} & = & (x-x_{S})^{2}\\
S(x_{S};y_{S}) & \,\textrm{bzw.}\, & S\left(-{\displaystyle \frac{b}{2}};\,
    \left({\displaystyle \frac{b}{2}}\right)^{2}-c\right)
\end{array}\]
\end{dogrid}
```

1. This is the first sentence
2. This is the second sentence
3. This is the third one
4. And this the last one

```
\begin{dogrid}[.75\linewidth][linecolor=lightgray,linestyle=solid,Gtrim=0 -1]
\begin{enumerate}
\item This is the first sentence
\item This is the second sentence
\item This is the third one
\item And this the last one
\end{enumerate}
\end{dogrid}
```

References

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