The mdframed package

Examples for framemethod=default

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In this document I collect various examples for framemethod=default. Some presented examples are more or less exorbitant.

Contents

1 Loading

In the preamble only the package mdframed with the option framemethod=default is loaded. All other modifications will be done by \mdfdefinestyle or \mdfsetup.

Note

Every \global inside the examples is necessary to work with my own created environment tltxmdfexample*.

2 Examples

All examples have the following settings:

```
\mdfsetup{skipabove=\topskip,skipbelow=\topskip}
\newrobustcmd\ExampleText{%
   An \textit{inhomogeneous linear} differential equation has the form
   \begin{align}
         L[v ] = f,
   \end{align}
   where $L$ is a linear differential operator, $v$ is the dependent
   variable, and $f$ is a given non−zero function of the independent
   variables alone.
}
```

Example 1 – very simple

```
\global\mdfdefinestyle{exampledefault}{%
        linecolor=red,linewidth=3pt,%
        leftmargin=1cm,rightmargin=1cm
}
\begin{mdframed}[style=exampledefault]
\ExampleText
\end{mdframed}
```

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{1}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Example 2 – hidden line + frame title

```
\global\mdfapptodefinestyle{exampledefault}{%
 topline=false,bottomline=false}
\begin{mdframed}[style=exampledefault,frametitle={Inhomogeneous linear}]
\ExampleText
\end{mdframed}
```

Inhomogeneous linear

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{2}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Example 3 – colored frame title

```
\global\mdfapptodefinestyle{exampledefault}{%
    rightline=true,innerleftmargin=10,innerrightmargin=10,
    frametitlerule=true,frametitlerulecolor=green,
    frametitlebackgroundcolor=yellow,
    frametitlerulewidth=2pt}
\begin{mdframed}[style=exampledefault,frametitle={Inhomogeneous linear}]
```

```
\ExampleText
\end{mdframed}
```

Inhomogeneous linear

An *inhomogeneous linear* differential equation has the form

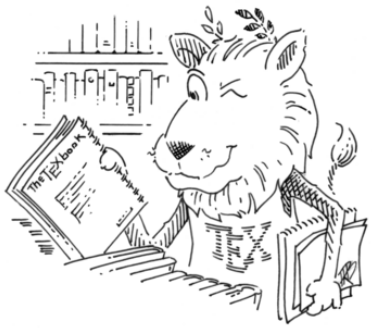
$$L[v] = f, \tag{3}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Example 4 – framed picture which is centered

```
\begin{mdframed}[userdefinedwidth=6cm,align=center,
                 linecolor=blue,linewidth=4pt]
\textit{CTAN lion drawing by Duane Bibby; thanks to \url{www.ctan.org}}
\IfFileExists{ctan-lion.png}%
 {\includegraphics[width=\linewidth]{ctan-lion.png}}%
 {\rule{\linewidth}{4cm}}%
\end{mdframed}
```

CTAN lion drawing by Duane Bibby; thanks to www.ctan.org



Example 5 – Theorem environments

```
\mdfdefinestyle{theoremstyle}{%
        linecolor=red,linewidth=2pt,%
        frametitlerule=true,%
        frametitlebackgroundcolor=gray!20,
        innertopmargin=\topskip,
    }
\mdtheorem[style=theoremstyle]{definition}{Definition}
\begin{definition}
```

```
\ExampleText
\end{definition}
\begin{definition}[Inhomogeneous linear]
\ExampleText
\end{definition}
\begin{definition*}[Inhomogeneous linear]
\ExampleText
\end{definition*}
```

Definition 1

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{4}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Definition 2: Inhomogeneous linear

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{5}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Definition: Inhomogeneous linear

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{6}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Example 6 – theorem with separate header and the help of TikZ (complex)

```
\newcounter{theo}[section]
\newenvironment{theo}[1][][]{%
  \stepcounter{theo}%
    \ifstrempty{#1}%
    {\mdfsetup{%
       frametitle={%
            \tikz[baseline=(current bounding box.east),outer sep=0pt]
```

```
            \node[anchor=east,rectangle,fill=blue!20]
            {\strut Theorem~\thetheo};}}
  }%
  {\mdfsetup{%
      frametitle={%
          \tikz[baseline=(current bounding box.east),outer sep=0pt]
            \node[anchor=east,rectangle,fill=blue!20]
            {\strut Theorem~\thetheo:~#1};}}%
   }%
   \mdfsetup{innertopmargin=10pt,linecolor=blue!20,%
                  linewidth=2pt,topline=true,
                  frametitleaboveskip=\dimexpr-\ht\strutbox\relax,}
   \begin{mdframed}[]\relax%
   }{\end{mdframed}}
\begin{theo}[Inhomogeneous Linear]
\ExampleText
\end{theo}

\begin{theo}
\ExampleText
\end{theo}
```

Theorem 1: Inhomogeneous Linear

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{7}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Theorem 2

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{8}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Example 7 – hide only a part of a line

The example below is inspired by the following post on StackExchange Theorem decorations that stay with theorem environment

```
\makeatletter
\newlength{\interruptlength}
\newrobustcmd\interruptrule[3]{%
```

```
  \color{#1}%
  \hspace*{\dimexpr\mdfboundingboxwidth+
                    \mdf@innerrightmargin@length\relax}%
  \rule[\dimexpr-\mdfboundingboxdepth+
                      #2\interruptlength\relax]%
          {\mdf@middlelinewidth@length}%
          {\dimexpr\mdfboundingboxtotalheight-#3\interruptlength\relax}%
}
\newrobustcmd\overlaplines[2][white]{%
  \mdfsetup{everyline=false}%
  \setlength{\interruptlength}{#2}
  \appto\mdf@frame@leftline@single{\llap{\interruptrule{#1}{1}{2}}}
  \appto\mdf@frame@rightline@single{\rlap{\interruptrule{#1}{1}{2}}}
  \appto\mdf@frame@leftline@first{\llap{\interruptrule{#1}{0}{1}}}
  \appto\mdf@frame@rightline@first{\rlap{\interruptrule{#1}{0}{1}}}
  \appto\mdf@frame@leftline@second{\llap{\interruptrule{#1}{1}{1}}}
  \appto\mdf@frame@rightline@second{\rlap{\interruptrule{#1}{1}{1}}}
  \appto\mdf@frame@leftline@middle{\llap{\interruptrule{#1}{0}{0}}}
  \appto\mdf@frame@rightline@middle{\rlap{\interruptrule{#1}{0}{0}}}
}
\makeatother

\overlaplines{2.5ex}
\begin{mdframed}[linecolor=blue,linewidth=8pt]
\ExampleText
\end{mdframed}
\overlaplines[blue!70!black!20]{2.5ex}
\begin{mdframed}[linecolor=blue,linewidth=8pt]
\ExampleText
\end{mdframed}
```

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{9}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{10}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.