

The mdframed package

Examples for `framemethod=default`

Marco Daniel

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

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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 the package `showexpl`.

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,
  frametitle=rule=true,frametitlecolor=green,
  frametitlebackgroundcolor=yellow,
  frametitlewidth=2pt}
\begin{mdframed}[style=exampledefault,frametitle={Inhomogeneous linear}]
\ExampleText
\end{mdframed}

```

Inhomogeneous linear

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \quad (3)$$

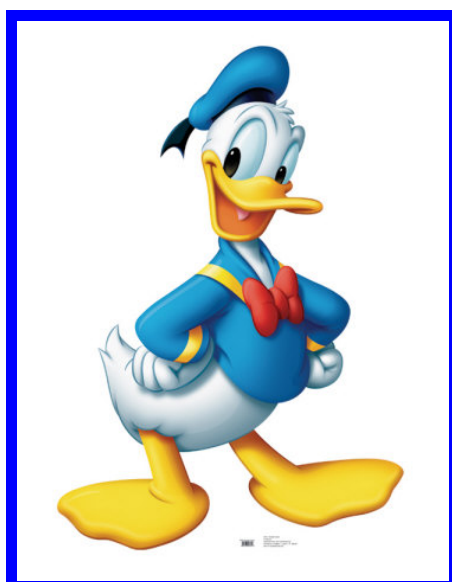
where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Example 4 – framed picture which is centered

```

\begin{mdframed}[userdefinedwidth=6cm,align=center,
  linecolor=blue,linewidth=4pt]
\IfFileExists{donald-duck.jpg}{%
  {\includegraphics[width=\linewidth]{donald-duck}}}%
  {\rule{\linewidth}{4cm}}}%
\end{mdframed}

```



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}%
\ifstrempy{#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

$$L[v] = f, \quad (7)$$

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

$$L[v] = f, \quad (8)$$

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.