# 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.

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## 1 Loading

In the preamble only the package mdframed width 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

An inhomogeneous linear differential equation has the form

$$L[v] = f, (1)$$

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,rightline=true,bottomline=false}
\begin{mdframed}[style=exampledefault,frametitle={Inhomogeneous linear}]
\ExampleText
\end{mdframed}
```

#### Inhomogeneous linear

An inhomogeneous linear differential equation has the form

$$L[v] = f, (2)$$

#### Example 3 – colored frame title

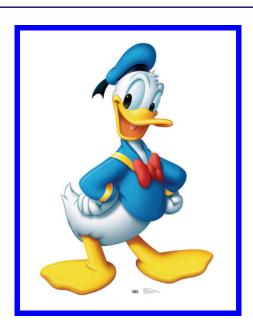
### Inhomogeneous linear

An inhomogeneous linear differential equation has the form

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

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



#### Example 5 - Theorem environments

#### Definition 1

An inhomogeneous linear differential equation has the form

$$L[v] = f, (4)$$

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

$$L[v] = f, (5)$$

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

$$L[v] = f, (6)$$

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

```
\newcounter{theo}[section]
\new environment { theo } [1][] { \% }
 \mathbf{stepcounter}\{\mathbf{theo}\}\%
   \left\langle \mathbf{fstrempty} \right\} \%
  {\bf mdfsetup}
      \mathbf{frametitle} = \{\,\%
          \tikz[baseline=(current bounding box.east),outer sep=0pt]
            \node[anchor=east,rectangle,fill=blue!20]
            {\strut Theorem~\thetheo};}}
  }%
  {\bf mdfsetup}
       frametitle={%
          \tikz[baseline=(current bounding box.east),outer sep=0pt]
            \node[anchor=east,rectangle,fill=blue!20]
            {\strut Theorem~\thetheo:~#1};}}%
    }%
    \mathbf{mdfsetup\{innertopmargin=10pt,linecolor=blue!20,\%}
                    linewidth=2pt,topline=true,
                    frametitleaboveskip = \langle dimexpr - \langle ht \rangle relax, \rangle
    \begin{mdframed}[]\relax%
    \{ \mathbf{M} \in \mathbf{M} \}
\begin{theo}[Inhomogeneous Linear]
Example Text
\end{theo}
\begin{theo}
\ExampleText
\ensuremath{\mbox{end}}{theo}
```

#### Theorem 1: Inhomogeneous Linear

An inhomogeneous linear differential equation has the form

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

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

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

#### 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}
\mathbf{setlength} \in \mathbf{1}
\new robustcmd \overlap lines {\%}
 \appto\mdf@frame@leftline@single{ %
    \rule[\dimexpr-\mdfboundingboxdepth+\interruptlength\relax]%
               {\mathbf mdf@middlelinewidth@length}\%
               {\dimexpr\mdfboundingboxtotalheight %
                -2\interruptlength\relax}%
   }%
 \appto\mdf@frame@rightline@single{%
   \left\langle \mathbf{rlap} \right\rangle \left\langle \mathbf{color} \right\rangle 
        \hspace*{\ndfboundingboxwidth}\%
        \hspace*{\mathbf{Mdf@innerrightmargin@length}}\%
        \rule[\dimexpr-\mdfboundingboxdepth%]
                +\interruptlength\relax]\%
               {\mathbf mdf@middlelinewidth@length}\%
               {\displaystyle \{ \setminus {\bf dimexpr} \setminus {\bf mdfboundingboxtotalheight \%} \}}
                +\if{bool}{mdf@topline}{\mbox{\em middlelinewidth@length}}{0pt}
                -2\interruptlength\relax\}%
}%
ackslash makeatother
\overlaplines
\begin{mdframed}[linecolor=blue,linewidth=8pt]
Example Text
end{mdframed}
```

An inhomogeneous linear differential equation has the form

$$L[v] = f, (9)$$