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 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

\begin{mdframed}[style=exampledefault]
ExampleText
\end{mdframed}

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

\begin{mdframed}[style=exampledefault,frametitle={Inhomogeneous linear}]
ExampleText
\end{mdframed}

Inhomogeneous linear

An inhomogeneous linear differential equation has the form

$$L[v] = f,$$

(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

\begin{mdframed}[style=exampledefault,frametitle={Inhomogeneous linear},frametitlebackgroundcolor=yellow,frametitlebordercolor=green,frametitleborderwidth=2pt]
ExampleText
\end{mdframed}
Inhomogeneous linear

An inhomogeneous linear differential equation has the form

$$L[v] = f,$$  \hspace{1cm} (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 5 – Theorem environments

```latex
\mdfdefinestyle{theoremstyle}{{%
  linecolor=red,linewidth=2pt,%
  frametitlebackgroundcolor=gray!20,
  innertopmargin=\topskip,
}\}
\mdtheorem[style=theoremstyle]{definition}{Definition}
\begin{definition}
```
Definition 1

An *inhomogeneous linear* differential equation has the form

\[ L[v] = f, \]  \hspace{1cm} (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

\[ L[v] = f, \]  \hspace{1cm} (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

\[ L[v] = f, \]  \hspace{1cm} (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)
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)

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*
An *inhomogeneous linear* differential equation has the form

\[ L[v] = f, \quad (9) \]

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

\[ L[v] = f, \quad (10) \]

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.