The \texttt{mdframed} package

Examples for \texttt{framemethod=TikZ}

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In this document I collect various examples for \texttt{framemethod=TikZ}. Some presented examples are more or less exorbitant.

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\textbf{1 Loading}

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

\textbf{Note}

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

\textbf{2 Examples}

All examples have the following settings:

\begin{verbatim}
\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.
}\end{verbatim}
An inhomogeneous linear differential equation has the form

\[ L[v] = f, \quad (1) \]

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.

Inhomogeneous linear

An inhomogeneous linear differential equation has the form

\[ L[v] = f, \quad (2) \]

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.
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 5 – complex example with TikZ

\begin{mdframed}[style=exercisestyle]
\begin{mdframed}[style=exercisestyle, exercisepoints=10]
\ExampleText
\end{mdframed}
\end{mdframed}
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.

Exercise n1

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.

Exercise n2

10 points
Example 6 – Theorem environments

\mdfdefinestyle{theoremstyle}{
  linecolor=red, middlelinewidth=2pt,%
  frametitlerule=true,%
  apptotikzsetting={\tikzset{mdfframetitlebackground/.append style={}%
    shade, left color=white, right color=blue!20}}},%
  frametitlerulecolor=green!60,%
  frametitlerulewidth=1pt,%
  innertopmargin=\topskip,}
\mdtheorem[style=theoremstyle]{definition}{Definition}
\begin{definition}[Inhomogeneous linear]
\ExampleText
\end{definition}
\begin{definition*}[Inhomogeneous linear]
\ExampleText
\end{definition*}

Definition 1: Inhomogeneous linear

An \textit{inhomogeneous linear} differential equation has the form
\begin{equation}
L[v] = f, \tag{6}
\end{equation}
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 \textit{inhomogeneous linear} differential equation has the form
\begin{equation}
L[v] = f, \tag{7}
\end{equation}
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.