The mdframed package

Examples for `frametheme=TikZ`

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

Contents

1 Loading

In the preamble only the package `mdframed` width the option `frametheme=TikZ` 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.
}
```

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. round corner

```
\global\mdfdefinestyle{exampledefault}{%
      outerlinewidth=5pt,innerlinewidth=0pt,
      outerlinecolor=red,roundcorner=5pt
}
\begin{mdframed}[style=exampledefault]
\ExampleText
\end{mdframed}
```

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 1 – hidden line + frame title

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

Inhomogeneous linear

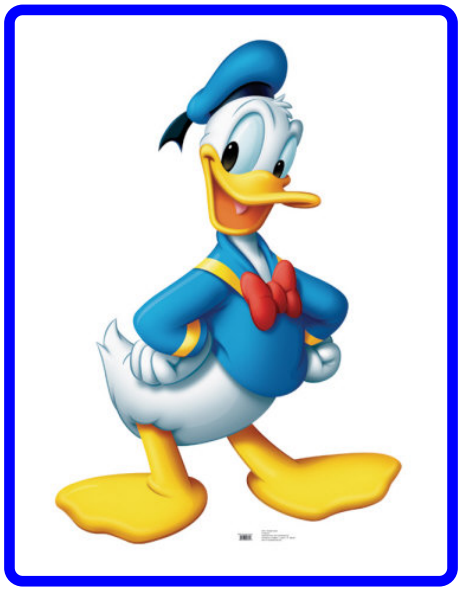
An *inhomogeneous linear* differential equation has the form

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

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 2 – framed picture which is centered

```
\begin{mdframed}[userdefinedwidth=6cm, align=center,
                 linecolor=blue, middlelinewidth=4pt, roundcorner=5pt]
\includegraphics[width=\linewidth]{donald-duck}
\end{mdframed}
```



Example 3 – Gimmick

```
\mdfsetup{splitbottomskip=0.8cm, splittopskip=0cm,
          innerrightmargin=2cm, innertopmargin=1cm,%
          innerlinewidth=2pt, outerlinewidth=2pt,
          middlelinewidth=10pt, backgroundcolor=red,
          linecolor=blue, middlelinecolor=gray,
          tikzsetting={draw=yellow, line width=3pt,%
                       dashed,%
                       dash pattern= on 10pt off 3pt},
          rightline=false, bottomline=false}
\begin{mdframed}
\ExampleText
\end{mdframed}
```

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.

Example 4 – complex example with TikZ

```
\tikzstyle{titregris} =
          [draw=gray, thick, fill=white, shading = exersicetitle, %
           text=gray, rectangle, rounded corners,
           right,minimum height=.7cm]

\pgfdeclarehorizontalshading{exersicebackground}{100bp}
{color(0bp)=(green!40);
color(100bp)=(black!5)}

\pgfdeclarehorizontalshading{exersicetitle}{100bp}
{color(0bp)=(red!40);
color(100bp)=(black!5)}

\newcounter{exercise}
\renewcommand\theexercise{Exercise~n\arabic{exercise}}
\makeatletter
\def\mdf@@exercisepoints{}
\define@key{mdf}{exercisepoints}{%
    \def\mdf@@exercisepoints{#1}
}
\renewrobustcmd\mdfcreateextratikz{%
       \node[titregris,xshift=1cm] at (P-|O) %
            {~\mdf@frametitlefont{\theexercise}~};
       \ifdefempty{\mdf@@exercisepoints}%
       {}%
       {\node[titregris,left,xshift=-1cm] at (P)%
         {~\mdf@frametitlefont{\mdf@@exercisepoints points}~};}%
}
\makeatother

\mdfdefinestyle{exercisestyle}{%
  outerlinewidth=1pt,
  innerlinewidth=0pt,
  roundcorner=2pt,
  linecolor=gray,
  tikzsetting={shading = exersicebackground},
  innertopmargin=1.2\baselineskip,
  skipabove={\dimexpr0.5\baselineskip+\topskip\relax},
  needspace=3\baselineskip,
  frametitlefont=\sffamily\bfseries,
  settings={\global\stepcounter{exercise}},
  }

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

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

Exercise n1

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.

Exercise n2 **10points**

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 5 – Theorem environments

```
\mdfdefinestyle{theoremstyle}{%
      linecolor=red,linewidth=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 *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.

Definition: Inhomogeneous linear

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.