

Demo of admonition styles in DocOnce

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Abstract

This note demonstrates how admonitions look like in the output format `pdflatex`.

1 The four main types of admonitions

Key options when compiling this document were

```
--latex_admon=mdfbox --latex_section_headings=blue
```

When using the default `mdfbox` style, there are some additional customization that can be played around with. It is possible to set the background color in the title and the color and thickness of the frame. Typically, one can autoedit the output `.tex` file:

```
doconce replace 'linecolor=black,' 'linecolor=darkblue,' mydoc.tex
doconce subst 'frametitlebackgroundcolor=.*?,' \
             'frametitlebackgroundcolor=blue!5,' mydoc.tex
```

Actually, this specific edit is automatically done by DocOnce by choosing the option `--latex_admon_color=bluestyle`.

Here is the warning admon:

Division by zero is illegal!

Most math systems will give fatal errors if you divide by zero.

```
Terminal> python -c 'print 4/0'
Traceback (most recent call last):
  File "<string>", line 1, in <module>
ZeroDivisionError: integer division or modulo by zero
```

You should therefore be very careful with all expressions that may result in division by zero. In Python, you can use a `try-except` clause to test if some expression gives a `ZeroDivisionError` exception and take appropriate actions. One example of a numerical method where division

by zero can cause problems is Newton's methods of finding solutions to algebraic equations $f(x) = 0$. In that algorithm, there is a division by $f'(x)$.

Question admon (without title).

Question.

What are the admon options for `doconce format html?`

Summary admon:

Summary.

The most popular methods for solving algebraic equations

$$f(x) = 0$$

are

- Newton's method
- The Bisection method
- The Secant method
- The Fixed-Point method ($f(x) = x - g(x)$)

Of these, Newton's method is fastest, the Bisection method is the most reliable, the Secant method is a simplified Newton method, and the Fixed-Point method is obviously very problem dependent in its behavior since the user has to define the g function.

Here is a *notice admon*:

Tip: follow well-established conventions for variable names!

For example, in Python, variable and function names use lower case letters separated by underscore, as in `vibration_with_damping` (while Java typically would have `vibrationWithDamping`). Class names apply cap words, as in `ProblemClass`.

The four main admons are warning, notice, question, and summary, but you may introduce other boxes by utilizing the title, as explained below.

The title of the box is fully customizable.

This means that if you want different types of boxes, e.g. a *detour* box and a *tip* box, you can just open introduce the convention that *detour* applies the summary box and starts with 'Detour:' in the title, while the notice box is used for tip boxes and as a title starting with 'Tip:'.

2 The block, quote and plain box environment

DocOnce features a block environment with or without title.

Blocks are often used in slides to frame a collection of things.

Block with title.

Blocks can contain text, math, code, figures, movies.

Here is a quote environment (`quote`):

Sayre's law states that "in any dispute the intensity of feeling is inversely proportional to the value of the issues at stake."

By way of corollary, it adds:

"That is why academic politics are so bitter."

Source: [wikipedia](#)

Boxes are very simple frames (without any icons, background color, or stash, except for a shadow) used for important results like

The world most famous equation:

$$E = mc^2$$