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=graybox2
```

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:

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 the define the g function.

The `graybox2` style has a special summary box that is embedded in the text (aimed at proposals or popular articles to summarize main points; the summary box is small 50% if A4 format, otherwise it is 80% of the width).

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.

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:

$$E = mc^2$$