SAMPLE DOCUMENT USING `ADENC.STY`

ADEN CHEN

Contents

Check out the github repo.

1. Theorem Environments

Definition 1.1. A definitive **definition** is a definition, by definition.

Lemma 1.2.
A lamentable lemma.

Theorem 1.3.
A towering theorem.

Corollary 1.4.
A cool corollary.

Remark 1.5. A remarkable remark.

Example 1.6. An exemplary example.

Problem 1.7. A problematic problem.

Proof. A precise proof. □

- Numbering can be turned off by using the corresponding `*` versions of the environments (e.g. `theorem*` instead of `theorem`).
- Use `\usepackage[color]{adenc}` to color theorem environments; use `\usepackage[plain]{adenc}` to use the default theorem environments: `definition`, `plain`, and `remark`.

2. Features

2.1. General math symbols.

- A vocab command for styling new vocabulary (in, for example, definitions): **the vocab command** (`\vocab{the vocab command}`).
- A contradiction symbol: ※ (`\contradiction`).

- Short cuts for `\mathbb` (`\XX` for `\mathbb{X}`), `\mathcal` (`\cX` for `\mathcal{X}`), and `\mathscr` (`\sX` for `\mathscr{X}`). E.g. $\mathbb{R}$ (`\RR`), $\mathcal{T}$ (`\cT`), $\mathscr{K}$ (`\sK`). (Note that these shortcuts are not available for all letters.)
- A better looking mod: $x \equiv y \bmod 3$ (`x \equiv y \mod 3`).

2.2. Math symbols by field.

Set Theory.

- A better looking complement symbol: A^c (`A^\complement`).
- A better empty set symbol: $\varnothing$ (`\emptyset`).
- A cardinality command: $|A|$ (`\card{A}`).
- A interior operator: $\operatorname{Int} A$ (`\Int A`).

Probability.

- Operators: $\mathbb{P}\,\mathbb{E}\,\operatorname{var}\operatorname{Var}\operatorname{Cov}$ (`\Pr \E \var \Var \Cov`).

Linear Algebra.

- Operators: $\operatorname{Id}\operatorname{Ker}\operatorname{tr}\operatorname{rank}\operatorname{RREF}\operatorname{almu}\operatorname{gemu}\operatorname{sign}\operatorname{span}$ (`\Id \Ker \tr \rank \RREF \almu \gemu \sign \Span`).
- Command for vectors: $\underline{v}$ (`\vec{v}`).
- Matrices:
$$\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}, \begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}, \begin{vmatrix} 1 & 2 \\ 3 & 4 \end{vmatrix}$$
(`\bmat{1 & 2 \\ 3 & 4}, \pmat{1 & 2 \\ 3 & 4}, \vmat{1 & 2 \\ 3 & 4}`).

Analysis.

- Differentiation operator: $\mathrm{d}x$ (`\d x`).
- Imaginary number: i (`\I`).
- Operators: $\operatorname{supp}\operatorname{epi}\operatorname{dist}\operatorname{Re}\operatorname{Im}$ (`\supp \epi \dist \Re \Im`).

2.3. Miscellaneous.

- Use `\ds` as a shorthand for `\displaystyle`.

3. Marking texts

Use commands `\markabove` and `\markbelow` to mark tests. Both commands take two arguments: (1) align method (`l`, `c`, or `r`); and (2) text to display. E.g.

Test test test test test.
Test test test test.
Test test test test.

test1
I'm marking below here
I'm marking above here
math! α

is produced by the code:

```
Test test test\markabove{l}{test1} test\markbelow{c}{I'm marking below here}.

Test test test test.

Test test test\markabove{c}{I'm marking above here} test\markbelow{r}{math! \(\alpha\)}.
```

4. Credits

I have stolen a lot of stuff from Andrew Lin's package, lindrew, and Gilles Castel's preamble file for his lecture notes.