

# SAMPLE DOCUMENT USING ADENC.STY

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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:  $\times$  (`\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:  $x \equiv y \pmod{3}$  (`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:  $\emptyset$  (`\emptyset`).
- A cardinality command:  $|A|$  (`\card{A}`).
- A interior operator:  $\text{Int } A$  (`\Int A`).

*Probability.*

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

*Linear Algebra.*

- Operators:  $\text{Id} \text{Ker} \text{tr} \text{rank} \text{RREF} \text{almu} \text{gemu} \text{sign} \text{span}$  (`\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:  $dx$  (`\d x`).
- Imaginary number:  $i$  (`\I`).
- Operators:  $\sup \text{epi} \text{dist} \text{Re} \text{Im}$  (`\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 testtest1 test.
Test test testI'm marking below here test.
Test test testI'm marking above here test.
Test test testmath! \alpha test.
```

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](#).