LaTeX Generic Template

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Introduction

This is a general purpose LaTeX style file for notes and assignments. Some specifications on the numbering:

1. Available environments for theorems are: `theorem`, `prop`, `cor`, `lemma`, `dfn`
2. These environments *share global ordering*, scoped inside each individual section. For example, Section 1 might contain Theorem 1.1, Lemma 1.2, Proposition 1.3 in order.
3. There are additional environments available for homework assignments: `exr`, `claim`
4. Claims are scoped inside of individual exercises. Exercises have global scope and share an ordering.

There is also support for math typesetting:

> **Theorem 0.1** (Residue Theorem)**.** *Let $f : \mathbb{C} \to \mathbb{C}$ be a complex function which is meromorphic on the interior of a closed curve C. Let $\{z_i\}_{i=1}^n$ be the set of singularities of f. Then,*
>
> $$\oint_C f\,dx = \frac{1}{2\pi i}\sum_{i=1}^{n} Res(z_i)$$

Proof. This is a proof environment. □

Remark. The residue theorem is often used with Cauchy's integral formula to reduce a contour integral to a summation over factors of a function evaluated at its singularities.

Exercise 1, Given. This is an exercise.

Claim 1.1. This is a claim

1 Numbering Demonstration

Aliquam arcu turpis, ultrices sed luctus ac, vehicula id metus. Morbi eu feugiat velit, et tempus augue. Proin ac mattis tortor. Donec tincidunt, ante rhoncus luctus semper, arcu lorem lobortis justo, nec convallis ante quam quis lectus. Aenean tincidunt sodales massa, et hendrerit tellus mattis ac. Sed non pretium nibh.

> **Theorem 1.1.** *Theorem theorem theorem.*

Donec cursus maximus luctus. Vivamus lobortis eros et massa porta porttitor.

> **Theorem 1.2.** *Theorem theorem theorem.*

> **Corollary 1.3.** *Corollary.*

2 Other Nice Features

In hac habitasse platea dictumst. Curabitur mattis elit sit amet justo luctus vestibulum. In hac habitasse platea dictumst. Pellentesque lobortis justo enim, a condimentum massa tempor eu. Ut quis nulla a quam pretium eleifend nec eu nisl. Nam cursus porttitor eros, sed luctus ligula convallis quis. Nam convallis, ligula in auctor euismod, ligula mauris fringilla tellus, et egestas mauris odio eget diam. Praesent sodales in ipsum eu dictum.

Question 1 *(with optional title)*

This is a question box.

(a) Do this.

(b) Do that.

(c) Do something else.

Algorithm 1: `FastTwoSum`

Input: (a, b), two floating-point numbers
Result: (c, d), such that $a + b = c + d$

if $|b| > |a|$ **then**
  exchange a and b ;
end
$c \leftarrow a + b$;
$z \leftarrow c - a$;
$d \leftarrow b - z$;
return (c, d) ;

hello.py

```
#! /usr/bin/python

import sys
sys.stdout.write("Hello World!\n")
```

Command Line

```
$ chmod +x hello.py
$ ./hello.py

Hello World!
```