LaTeX

My Usage Cheatsheet

Abstract

This document contains common LaTeX snippets which I frequently use in creating my documents. Furthermore, the structure of this project also forms a boilerplate for new documents.

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1. Basics

1.1. Paragraphs and newlines

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortis facilisis sem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdiet mi nec ante. Donec ullamcorper, felis non sodales commodo, lectus velit ultrices augue, a dignissim nibh lectus placerat pede.

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This is a single line followed by a new line
This is a single line

1.2. Bold, Italics, Emphasize, Underline text

This is a **bold** word.
This is an *italicized* word.
This is an *emphasized* word.
This is an underlined word.

1.3. Unordered and ordered lists

Ordered lists exist within an `enumerate` environment:

1. List entries start with the `\item` command.
2. Individual entries are indicated with bullet.

Unordered lists exist within a `itemize` environment:

- List entries start with the `\item` command.
- Individual entries are indicated with bullet.

Description lists exist within a `description` environment:

Verb Definition of a verb.

Indicators Definition of an indicator.

1.4. Text with color

A word can be coloured to any desired value.
A word can have a colored background .

This is a paragraph of text written in blue color. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Lorem ipsum dolor sit amet, consectetuer adipiscing elit.

The color is reset to normal text color.

1.5. Footnote

LaTeX, software used for typesetting [1] technical documents.

LaTeX is a free software [2] package created in 1985 by the American computer scientist Leslie Lamport as an addition to the TeX typesetting system. LaTeX was created to make it easier to produce general-purpose books and articles within TeX. Because LaTeX is an extension to the TeX typesetting system, it has TeX's ability to typeset technical documents that contain complex mathematical equations.

1.6. Margin notes

The Big Bang event is a physical theory that describes how the universe expanded from an initial state of high density and temperature. It was first proposed in 1927 by Roman Catholic priest and physicist Georges Lemaître. Various cosmological models of the Big Bang explain the evolution of the observable universe from the earliest known periods through its subsequent large-scale form. These models offer a comprehensive explanation for a broad range of observed phenomena, including the abundance of light elements, the cosmic microwave background (CMB) radiation, and large-scale structure.

Cosmology is a phenomenal thing!

The overall uniformity of the Universe, known as the flatness problem, is explained through cosmic inflation: a sudden and very rapid expansion of space during the earliest moments. However, physics currently lacks a widely accepted theory of quantum gravity that can successfully model the earliest conditions of the Big Bang.

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[1] Typesetting is the way that text is composed using individual types — the symbols, letters and glyphs in digital systems.

[2] the programs and other operating information used by a computer.

1.7. Cross referencing and hyperlinks

Section-1.4 demonstrates font and text color.

Figure-1 is that of a mesh graph.

For further references see Wikipedia or go to the next url: `http://www.google.com`.

This is a link to a word within a paragraph of text in the document.

2. Images

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Figure 1: A heat graph

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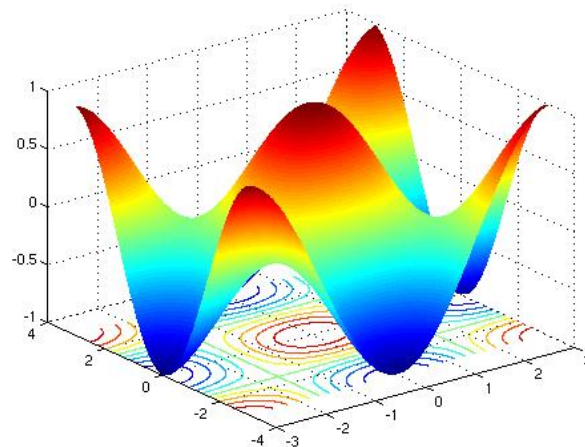
2.1. Left and right aligned images

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Figure 2: A 3D cad image

Figure 3: A 2D cad image

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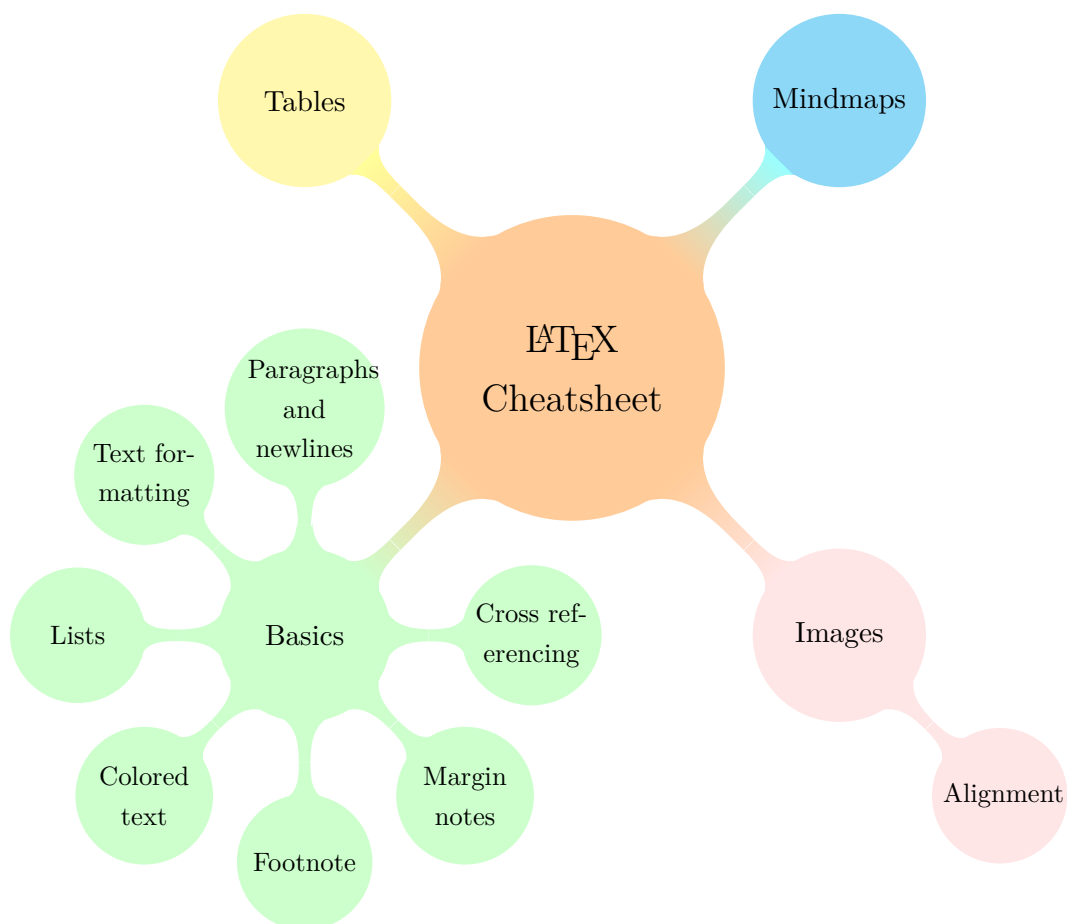
3. Tables

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Books - merged cell			
Food name	Cost	Author	Publication
Book1	100	Author1	P1
Book1	150	Author2	P2
Merged row	200	Author3	P3
	125	Author4	P4

Table 1: Table caption

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4. Mindmaps

5.   Listings

Writing snippet of code within the LaTeX files.

```java
package com.sandy ;

import com.sandy.sample.* ;

public class Test {
    public static void main( String[] args ) {
        System.out.println( "Hello World!" ) ;
    }
}
```

Listing 1: Inline code

Importing code from an external source file.

```python
#
# Palindrome tester
#
# This code tests if a string qualifies as a palindrome.
def isPalindrome(s):
    return s == s[::-1]


s = "racecar"
ans = isPalindrome(s)

if ans:
    print("Yes")
else:
    print("No")#
```

Listing 2: External code

Or we can quote a range of line numbers from the file.

```python
def isPalindrome(s):
    return s == s[::-1]
```

Listing 3: Snippet

6.   Algorithms

Writing pseudocode in Latex using the `algorithm2e` package.

Data: $n \geq 0$
Result: $y = x^n$
$y \leftarrow 1$
$X \leftarrow x$
$N \leftarrow n$
while $N \neq 0$ **do**
   if N *is even* **then**
      $X \leftarrow X \times X$
      $N \leftarrow \frac{N}{2}$ /* This is a comment */
   else
      if N *is odd* **then**
         $y \leftarrow y \times X$
         $N \leftarrow N - 1$
      end
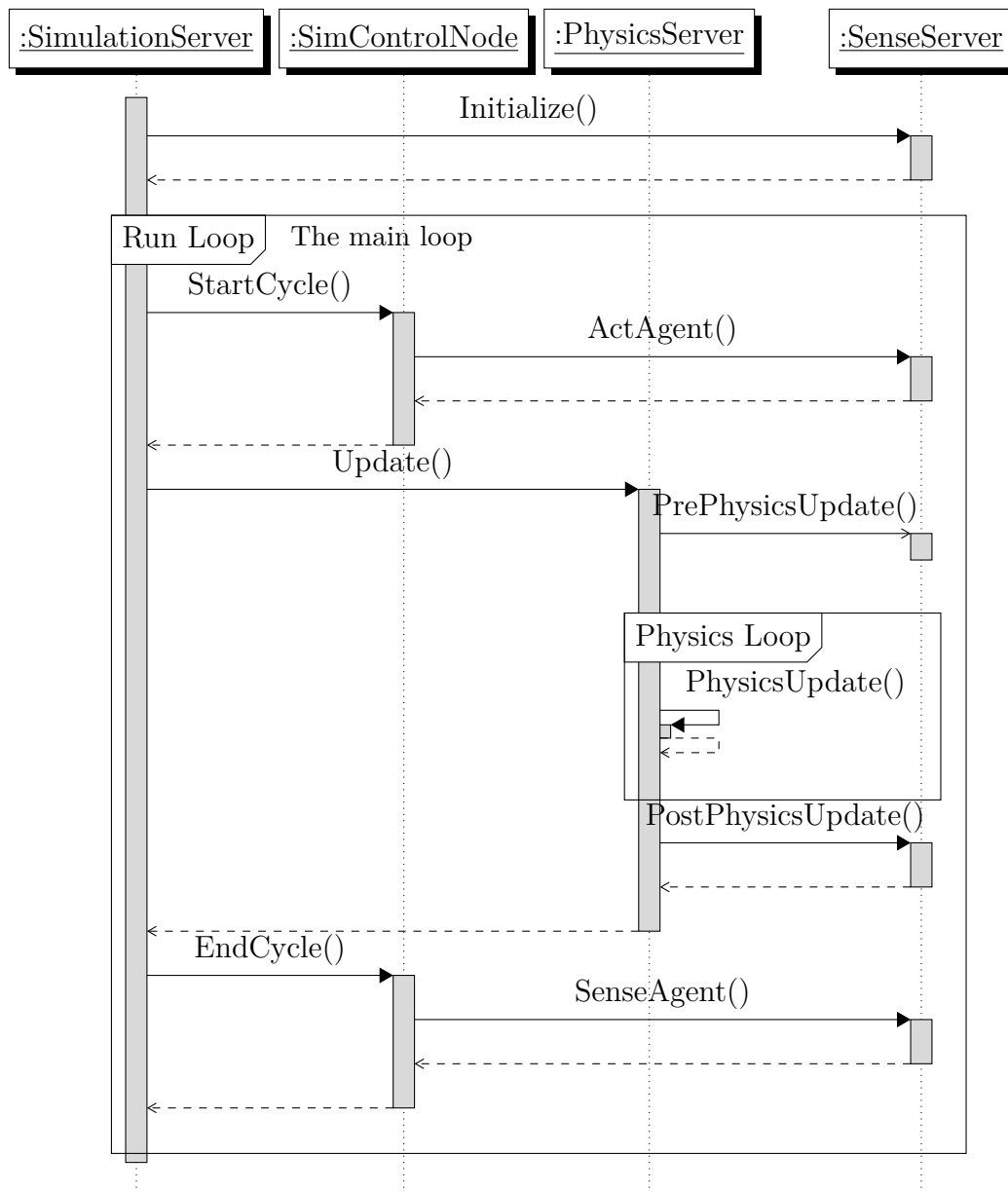   **end**
end

Algorithm 1: An algorithm with caption

7. Sequence diagrams

Figure 4: Physics update sequence diagram