

**Name of Organization**

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NAME OF GROUP/DIVISION

# **Title of the Report: Some Details about the Report**

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WHAT IS THIS REPORT FOR?

It is for ...  
and BLAH ...

November 2, 2014

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## **Abstract**

Insert abstract here.

More stuff to be included.

# Revision History

## Revision History:

1. Version 0.1, June 1, 2014. Initial copy of the report.
2. Version 0.2, June 4, 2014. Added chapter on typesetting algorithms.
3. Version 0.3, June 4, 2014. Added chapter on typesetting text, inserting figures and tables, added a subdirectory for pictures of the report, and begun a section on typesetting mathematical symbols, expressions, and equations.
4. Version 0.4, June 4, 2014. Added introductory paragraph on typesetting in  $\text{\LaTeX}$ , and referencing and citations.
5. Version 0.5, June 5, 2014. Completed section on using color in  $\text{\LaTeX}$ . In addition, I have completed another section on symbols representing  $\text{\LaTeX}$  and related computer languages/technologies/concepts.
6. Version 0.6, June 5, 2014. Completed chapter on typesetting (macros) in  $\text{\LaTeX}$ .
7. Version 0.7, June 8, 2014. Completed  $\text{\LaTeX}$  template for reports.

# Contents

# Chapter 1

## Text

There are a significant amount of references for helping people to learn  $\text{\LaTeX}$  [?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?] and related information/technologies.

In this chapter, I will provide some templates for referencing, templates for  $\text{\BibTeX}$  entries, indicate some common  $\text{\LaTeX}$  symbols, usage of colors in  $\text{\LaTeX}$ , and miscellaneous details.

Random macros from my  $\text{\LaTeX}$ -specific IDE (or text editor):

1. `\rule{6in}{.1pt}`
2. `emailid@domain.com`
3. Begin-end constructs (i.e., `\begin` and `\end`) for:
  - (a) quotation
  - (b) quote
  - (c) verbatim
  - (d) verse
4. Types of headings:
  - (a) `\chapter{}`
  - (b) `\paragraph{}`
  - (c) `\subparagraph{}`
  - (d) `\section{}`
  - (e) `\subsection{}`
  - (f) `\subsubsection{}`
5. To add an entry into the “Table of Contents” without it being numbered, try the following:
  - (a) `\addcontentsline{toc}{section}{BLAH}`
  - (b) `\section*{BLAH}`
6. Insert/import content from another file: `\input{RELATIVE PATHNAME}`
7. Import  $\text{\LaTeX}$  packages: `\usepackage{}`
8. `\footnote{}`
9. `\marginpar{}`
10.  $\mathcal{C}$
11.  $\mathcal{C}$ : Caligraphy style font.
12. This is good.: Underline text.
13. **This is a statement.** TypeWriter.
14. This is a statement. Sans Serif font.

15. *This is a statement.* Slanted font.
16. This is a statement.
17. Types of labels:
  - (a) “chp:” for chapter
  - (b) “sec:” for section
  - (c) “ssec:” for subsection
  - (d) “sssec:” for subsubsection
  - (e) “fig:” for figure
  - (f) “tab:” for table
  - (g) “eqn:” for equation
  - (h) “lst:” for code listing
  - (i) “defn:” for definition
  - (j) “thrm:” for theorem
  - (k) “lem:” for lemma
  - (l) “crly:” for corollary
  - (m) “prop:” for proposition
  - (n) “prf:” for proof
  - (o) “eg:” for example
  - (p) “rem:” for remark

An enumeration of items:

1. Quite sparse enumeration:
  - (a) Sparse enumeration:
    - i. Very sparse enumeration:
      - A. Very, very sparse list:
        - Blah
- 2.
- 3.
4. Inserting a horizontal line beneath this item in the list.

---
- 5.
- 6.

List of items:

- Blah

Description of items:

**Key** Sparse description:

**key** Another entry

## 1.1 Referencing Information

Here is how I can reference common resources:

1. For online resources:
  - (a) Author, “Title of web page,” in *Title of Primary Web Site*, Name of Publisher/Organization/Individual, Address, Month Date, Year. Available online at: <http://www.webpage.url/>; last accessed on June 2, 2014.

- (b) Regarding entries for my  $\text{\LaTeX}$  database, insert the following to the “howpublished” field:  
Available online at: <http://www.webpage.url/>; June 11, 2012 was the last accessed date.
2. DOI field in  $\text{\LaTeX}$  should be indicated as a URL: <http://dx.doi.org/DOI>.
3. To enter a summary of a paper that I have written into a report, enter it as a section (or subsection or subsubsection) with the following “fields”:
  - (a) In the title of the section, indicate the title of the paper and its abbreviation (i.e., its  $\text{\LaTeX}$  key).
  - (b) Terse summary: Summary of the paper in 2-3 lines.
  - (c) Not-so-concise summary and highlights. Summarize the publication in  $\leq 2$  pages. For publications that are not survey papers nor literature review, highlight the advantages and disadvantages of the described techniques/innovations. For survey papers nor literature review publications, summarize the primary publications that was mentioned in the survey/review.
  - (d) Other notes about the publication: Insert important figures and equations, among other details about the paper.
4. *BibDesk* only creates a folder for publications with non-empty author fields. Hence, when entering a  $\text{\LaTeX}$  into my  $\text{\LaTeX}$  database, enter the names of the editors into the `author` field. **When citing edited publications, use a script to shift the content of the `author` field into the `editor` field.** This enables PDF files associated with  $\text{\LaTeX}$  entries in my  $\text{\LaTeX}$  database to be placed in subdirectories in my repository of publications based on the author’s (or first author’s) last name.
5. Wikipedia contributors, “TITLE OF THE ARTICLE,” in *Wikipedia, The Free Encyclopedia: CATEGORY*, Wikimedia Foundation, San Francisco, CA, MONTH DATE, YEAR.
6. Wikibooks contributors, “CHAPTER,” in *TITLE OF THE BOOK*, Wikibooks: Open books for an open world, Wikimedia Foundation, San Francisco, CA, MONTH DATE, YEAR.
7. Wikibooks contributors, “SECTION,” in *CHAPTER of TITLE OF THE BOOK*, Wikibooks: Open books for an open world, Wikimedia Foundation, San Francisco, CA, MONTH DATE, YEAR.
8. Wikibooks contributors, “TITLE OF THE BOOK,” Wikibooks: Open books for an open world, Wikimedia Foundation, San Francisco, CA, MONTH DATE, YEAR.
9. Wikiquote contributors, “TITLE,” Wikiquote, Wikimedia Foundation, San Francisco, CA, MONTH DATE, YEAR.
10. Wiktionary contributors, “TITLE,” Wiktionary, Wikimedia Foundation, San Francisco, CA, MONTH DATE, YEAR.
11. Dictionary.com, “WORD,” IAC, Oakland, CA, MONTH DATE, YEAR.
12. AUTHOR, “TITLE,” in *The New York Times: The Opinion Pages: Op-Ed Contributor*, The New York Times Company, New York, NY, MONTH DATE, YEAR.
13. AUTHOR, “QUESTION”, in *CATEGORY*, Quora, Inc., Palo Alto, CA, MONTH DATE, YEAR.
14. AUTHOR, Answer to “QUESTION”, in *CATEGORY: QUESTION*, Quora, Inc., Palo Alto, CA, MONTH DATE, YEAR.
15. AUTHOR, “TITLE OF POST, in *BLOG TITLE*, Quora, Inc., Palo Alto, CA, MONTH DATE, YEAR.

## 1.2 Writing $\text{\LaTeX}$ Symbols

Symbols used to represent  $\text{\LaTeX}$  and related computer languages/technologies and concepts are:

1.  $\text{\LaTeX}$

2.  $\text{\LaTeX} 2_{\epsilon}$
3.  $\text{\BibTeX}$  (or  $\text{\BibTeX}$ )
4. METAPOST
5. METAFONT
6.  $\text{\textsuperscript{TM}}$
7.  $\text{\textcircled{R}}$
8.  $\text{\textcircled{C}}$
9.  $\text{\textcircled{O}}$

Other symbols of interests:

1.  $\text{\text{€}}$
2. “ $\backslash >$ ”:
- 3.

## 1.3 Coloring in $\text{\LaTeX}$

Things that I can do with colors in  $\text{\LaTeX}$ :

1. To change the color of the text:
  - (a) **TEXT**
  - (b) **INSERT\_STUFF\_HERE**
  - (c) **INSERT\_STUFF\_HERE**
2. **INSERT\_STUFF\_HERE**
3. Common colors that I tend to use in  $\text{\LaTeX}$ :
  - (a) Apricot
  - (b) blue
  - (c) cyan
  - (d) ForestGreen
  - (e) green
  - (f) magenta
  - (g) RoyalBlue
  - (h) RubineRed
  - (i) yellow
  - (j) YellowOrange



# Chapter 2

## Mathematics

Math symbols that I use frequently:

1.  $\mathbb{N}$   
2.  $\sum_{i=1}^n$

3.  $f(x) = \lim_{n \rightarrow \infty} \frac{f(x)}{g(x)}$

4.  $\emptyset$

5.  $q$

A  $3 \times 3$  matrix:  $\begin{pmatrix} 11 & 12 & 13 \\ 21 & 22 & 23 \\ 31 & 32 & 33 \end{pmatrix}$

Here is an equation:

$$\iint_{\Sigma} \nabla \times \mathbf{F} \cdot d\mathbf{\Sigma} = \oint_{\partial\Sigma} \mathbf{F} \cdot d\mathbf{r}. \quad (2.1)$$

Here is an equation that is not numbered.

$$\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t}$$

Here is the set of Maxwell's equations that is numbered.

$$\nabla \cdot \mathbf{E} = \frac{\rho}{\epsilon_0} \quad (2.2)$$

$$\nabla \cdot \mathbf{B} = 0 \quad (2.3)$$

$$\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t} \quad (2.4)$$

$$\nabla \times \mathbf{B} = \mu_0 \left( \mathbf{J} + \epsilon_0 \frac{\partial \mathbf{E}}{\partial t} \right) \quad (2.5)$$

$$\begin{array}{l} \text{minimize } \sum_{i=1}^c c_i \cdot x_i \\ \underline{x} \in S \\ \text{subject to :} \\ x_1 + x_4 = 0 \\ x_3 + 7 \cdot x_4 + 2 \cdot x_9 = 0 \end{array}$$

$$f(n) = \begin{cases} case - 1 & : n \text{ is odd} \\ case - 2 & : n \text{ is even} \end{cases} \tag{2.6}$$

*Proof.* This is a proof for BLAH ... □

**Theorem 2.1.** *TITLE of theorem. My theorem is...*

**Axiom 2.1.** *TITLE of axiom. Blah...*

Cases of putting a bracket/parenthesis on the right side of the equation.

$$\left. \begin{array}{l} B' = -\partial \times E, \\ E' = \partial \times B - 4\pi j, \end{array} \right\} \text{Maxwell's equations}$$

Cases of putting a bracket/parenthesis on the right side of the equation.

$$\left. \begin{array}{ll} E = mc^2 & \text{foo} \\ \int x - 3 \, dx & \text{barbaz} \end{array} \right\} y = f(x)$$

Labeling an arrow:  $\xrightarrow{ewq}$

# Chapter 3

## Tables

A template for inserting tables is shown in Table ??.

Table 3.1: My caption for my table

Level	Use	Features	Abstraction
Level	Use	Features	Abstraction
Level	Use	Features	Abstraction

# Chapter 4

## Figures

A template for inserting figures is shown in Figures ??, ??, ??, and ??. Also, a TikZ figure is shown in Figure ??.

I have used the `\clearpage` command to clear the remanding part of the first page for this section (§??), and insert the remaining figures and text in subsequent pages. If the last three figures (Figures ??, ??, and ??) are reordered to the following order, Figures ??, ??, and ??, the effects of the `\clearpage` command would be more evident.

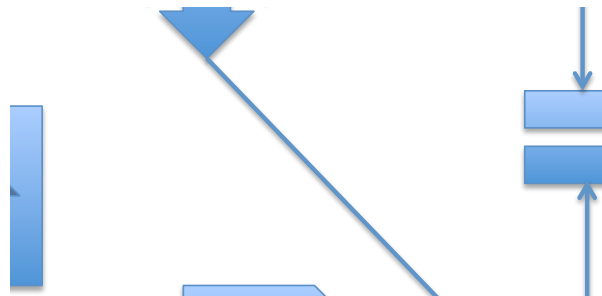


Figure 4.1: Caption for my figure1

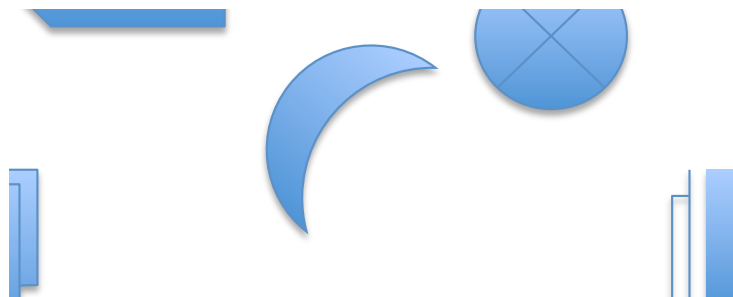


Figure 4.2: Caption for my figure2

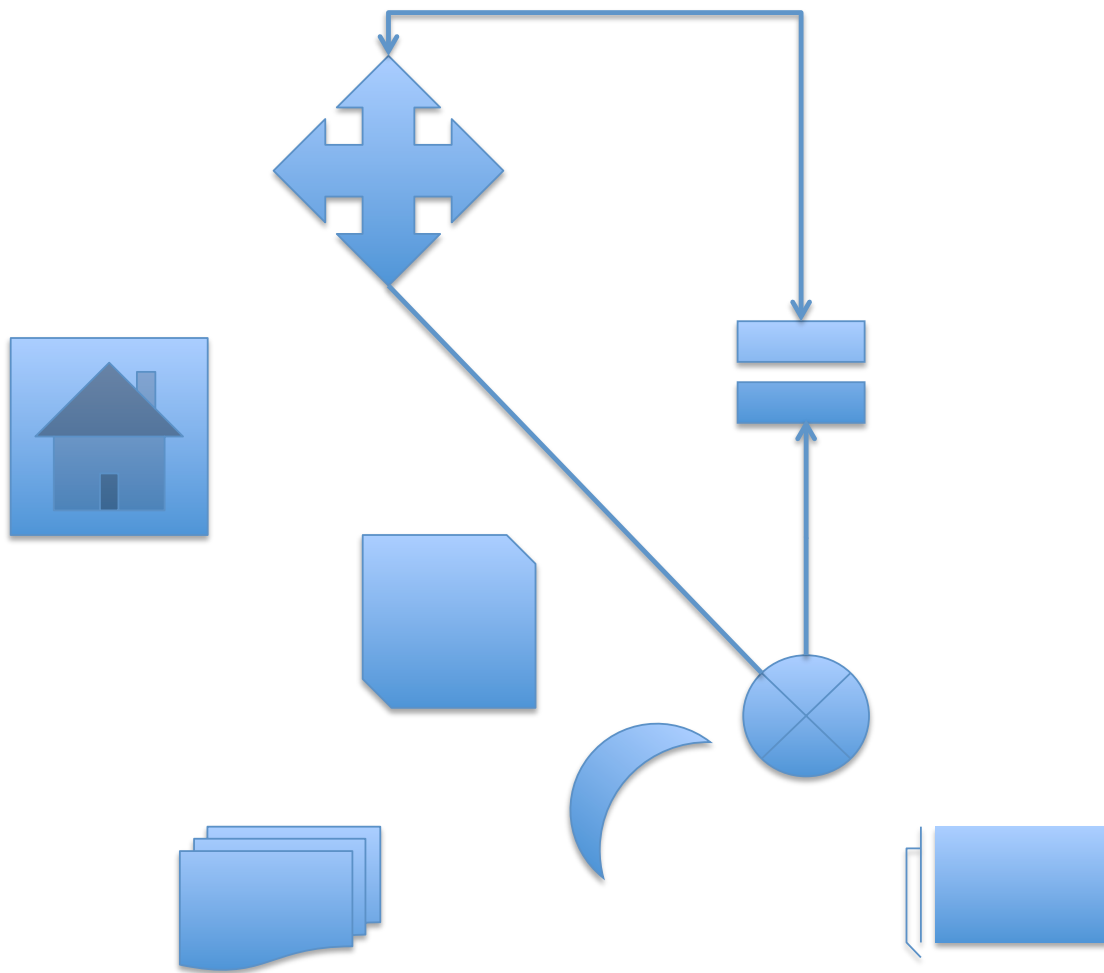


Figure 4.3: Caption for my figure3

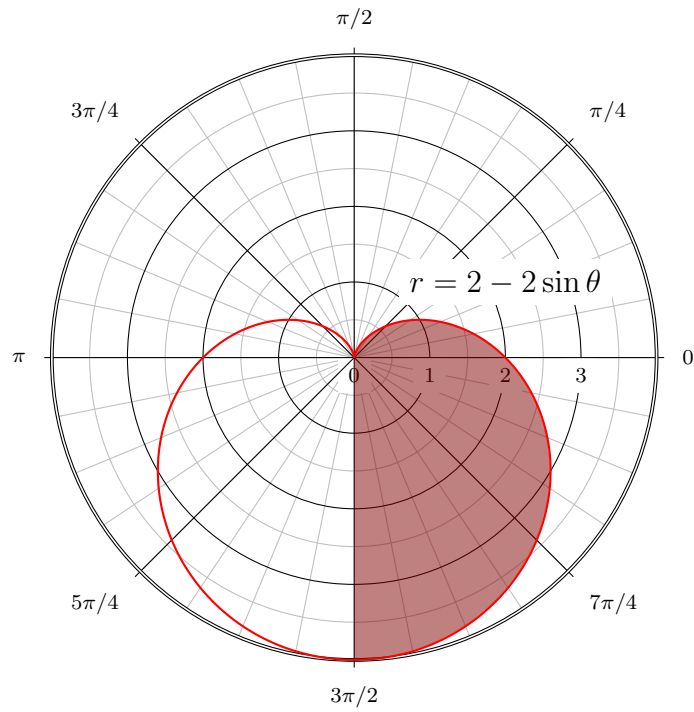


Figure 4.4: My polar plot

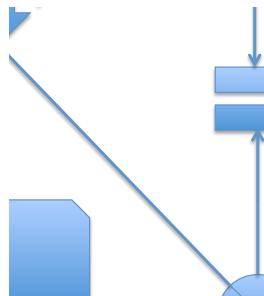


Figure 4.5: Caption for my figure4

# Chapter 5

## Algorithms

A template for typesetting algorithms is shown in PROCEDURE ??.

NAME OF THE ALGORITHM(*ARGUMENTS*)

```
    // Input ARGUMENT #1: Definition1
    // Input ARGUMENT #2: Definition2
1  BODY OF THE PROCEDURE
    // A while loop.
2  while [condition]
3      [Something]
    // A for loop.
4  for Var = [initial value] to [final value]
5      [Something]
    // An if-elseif-else block.
6  if [Condition1]
7      Blah...
8  elseif [Condition2]
9      Blah...
10 elseif [Condition3]
11     Blah...
12 else
13     Blah...
    // A variable assignment.
14 blah = A[j]
    // This is indented with a tab.
    // What is the output of this procedure?
15 return
```