Name of Organization

Name of Group/Division

Title of the Report: Some Details about the Report

Name Surname [1]

What is this report for?
It is for ...
and BLAH ...

April 25, 2022

[1]Email correspondence to: email-id@domain.url

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 LaTeX, and referencing and citations.
5. Version 0.5, June 5, 2014. Completed section on using color in LaTeX. In addition, I have completed another section on symbols representing LaTeX and related computer languages/technologies/concepts.
6. Version 0.6, June 5, 2014. Completed chapter on typesetting (macros) in LaTeX.
7. Version 0.7, June 8, 2014. Completed LaTeX template for reports.
8. Version 0.8, July 11, 2019. Provided versions of LaTeX templates for articles and reports with less package usage, since the more comprehensive versions of these LaTeX templates (for articles and reports) use packages that are typically not installed in some LaTeX engines.

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Chapter 1

Text

There are a significant amount of references for helping people to learn LaTeX [1–4, 6–30] and related information/technologies.

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

Random macros from my 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 LaTeX packages: \usepackage{}
8. \footnote{}
9. \marginpar{}
10. $\mathcal{C}$
11. 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.

To change the style for an enumerated list, try: `\begin{enumerate}[new_style]` [16].

For example, to use Roman numerals, period separated by Arabic numerals, enclosed in round brackets, instead of the standard numbering, try [5]:

(A.1) My item 1.
(B.2) My item 2.
(C.3) My item 3.:
    (a) This is the first case.
    (b) This is the second case.
(D.4) My item 4.
(E.5) My item 5.
(F.6) My item 6.
(G.7) My item 7.

List of items:

- Blah

Description of items:

Key Sparse description:

key Another entry

Commonly forgotten LaTeX typesetting information:

1. Turkish `i`: dısınformation. Second `i` is a dotless `i`.
2. Accents, diacritics, or diacritical marks/points/signs:
   (a) Accents, diacritics, or diacritical marks/points/signs cannot be added above and below a given letter.
   (b) đ
3. The @ symbol (at sign, at symbol, commercial at, or address sign) can be used without the mathematical mode/environment [16].
4. special characters:
   (a) underscores:
      i. cheat_sheets
   (b) To indicate "--", try: "--" (-\--). This would avoid turning the "--" into "–" [16, §2.5.3, pp. 26–27].
5. brackets:
   (a) Use [duplicate] or [duplicate], rather than \[duplicate\].
   (b) Use (duplicate) like normal.
6. LaTeX-related symbols:
   (a) LaTeX.
   (b) LaTeX 2_ε.
   (c) $\mathcal{AMS}$-LaTeX.
   (d) BibTeX.
   (e) METAFONT.
   (f) METAPOST.
   (g) ™.
   (h) ®.
   (i) ©.
   (j) ℗.

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 BibTeX 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 BibTeX 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 BibTeX key).
   (b) Terse summary: Summary of the paper in 2-3 lines.
   (c) Not-so-concise summary and highlights. Summarize the publication in ≤ 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 BibTeX into my BibTeX 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 BibTeX entries in my BibTeX 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 LaTeX Symbols

Symbols used to represent LaTeX and related computer languages/technologies and concepts are:

1. LaTeX
2. LaTeX 2_ε
3. BibTeX (or BibTeX)
4. METAPOST
5. METAFONT

6. ™
7. ®
8. ©
9. ℗

Other symbols of interests:

1. €
2. “\ >”:
3.

1.3 Coloring in LaTeX

Things that I can do with colors in 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 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. $f(x) = \lim_{n\to\infty} \frac{f(x)}{g(x)}$
4. $\varnothing$
5. q

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

Here is an equation:

$$\iint_{\Sigma} \nabla \times \mathbf{F} \cdot \mathrm{d}\mathbf{\Sigma} = \oint_{\partial\Sigma} \mathbf{F} \cdot \mathrm{d}\mathbf{r}. \tag{2.1}$$

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.

$$\nabla \cdot \mathbf{E} = \frac{\rho}{\varepsilon_0} \tag{2.2}$$

$$\nabla \cdot \mathbf{B} = 0 \tag{2.3}$$

$$\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t} \tag{2.4}$$

$$\nabla \times \mathbf{B} = \mu_0 \left(\mathbf{J} + \varepsilon_0 \frac{\partial \mathbf{E}}{\partial t} \right) \tag{2.5}$$

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

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

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.

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

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: $\xrightarrow{ewq}$.

Symbols for mathematical logic:

1. $\models$, entails
2. $\vdash$, infers/proves/concludes
3. $\Rightarrow$, or $\Longrightarrow$, implies
4. $\wedge$ or $\bigwedge$, conjunction, AND:
   (a) $A \wedge B$
5. $\vee$ or $\bigvee$, disjunction, OR:
   (a) $A \vee B$ is true if A is true, or if B is true, or if both A and B are true.
6. $p \to q$:
   (a) material implication, or simply implication, if...then, IMPLY
   (b) p is the antecedent, and q is the consequent
   (c) logical connectives include:
      i. $\neg$, negation, NOT, inverter
      ii. $\wedge$
      iii. $\vee$
      iv. $\to$
      v. $\leftrightarrow$, $\longleftrightarrow$, biconditional, if and only if, XNOR
      vi. $\leftarrow$, $\longleftarrow$, converse implication, ... if
      vii. $\uparrow$, alternative denial, not both, NAND
      viii. $\downarrow$, joint denial, neither...nor, NOR
      ix. $\to /$, material nonimplication, NIMPLY

Chapter 3

Tables

A template for inserting tables is shown in Table 3.1.

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 4.1, 4.2, 4.3, and 4.5. Also, a TikZ figure is shown in Figure 4.4.

I have used the `\clearpage` command to clear the remanding part of the first page for this section (§4), and insert the remaining figures and text in subsequent pages. If the last three figures (Figures 4.3, 4.4, and 4.5) are reordered to the following order, Figures 4.5, 4.4, and 4.3, the effects of the `\clearpage` command would be more evident.

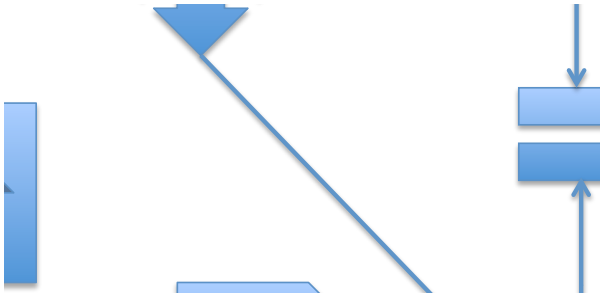

Figure 4.1: Caption for my figure1

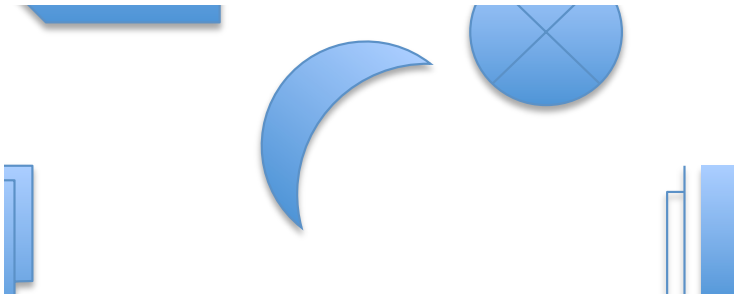

Figure 4.2: Caption for my figure2

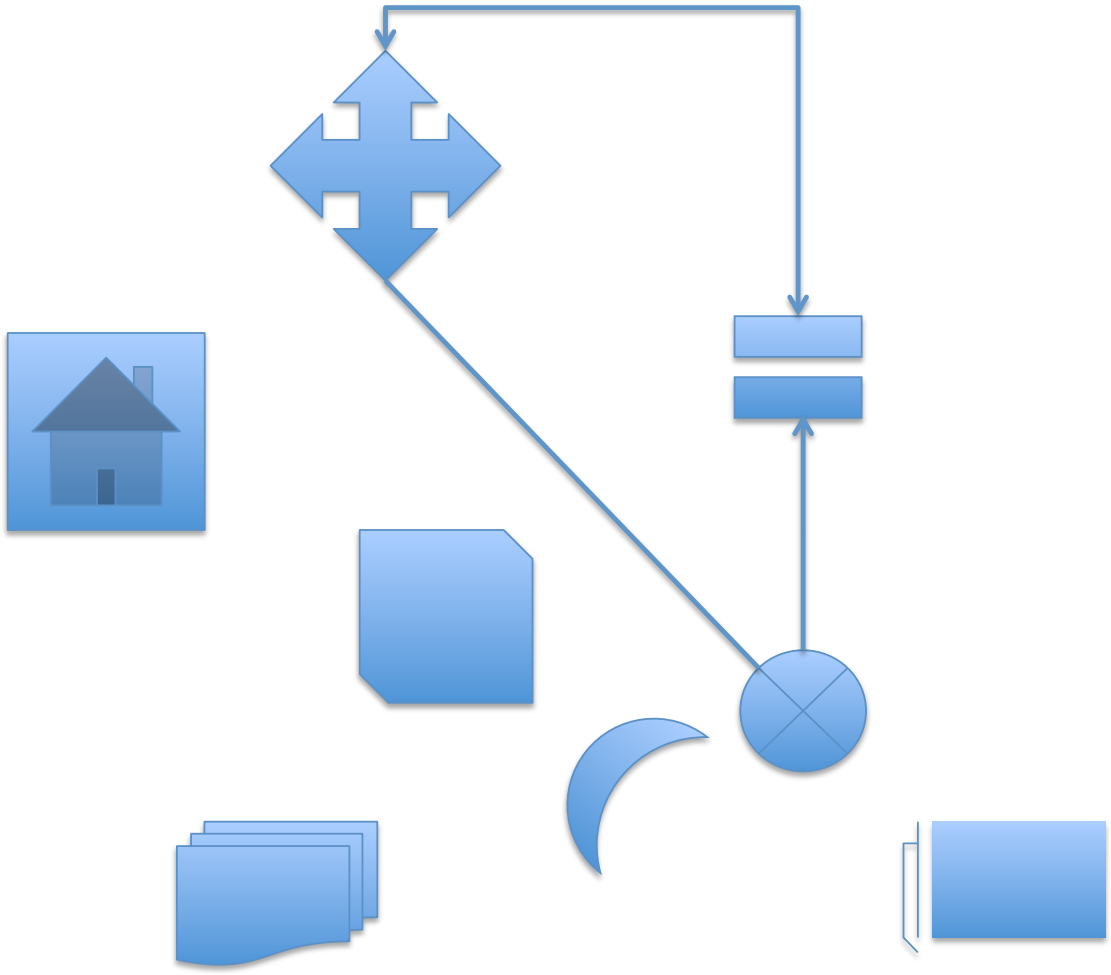

Figure 4.3: Caption for my figure3

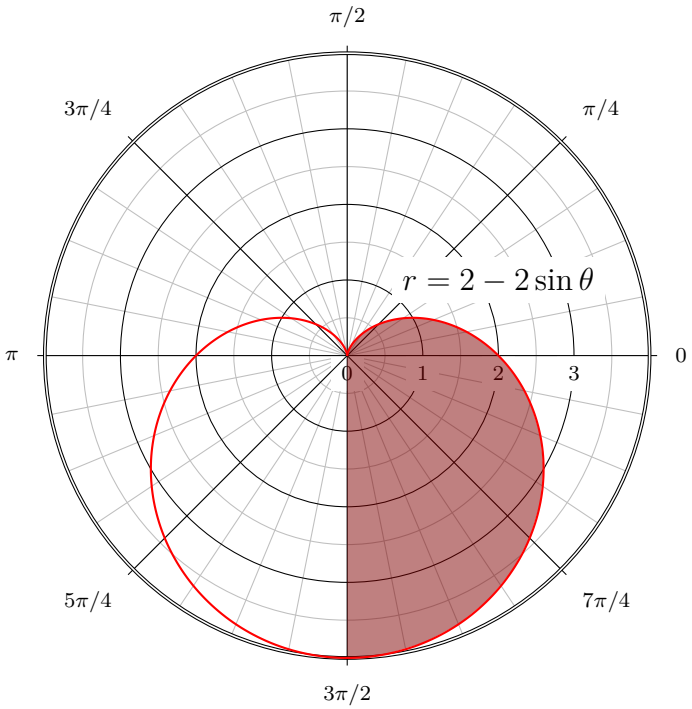

Figure 4.4: My polar plot

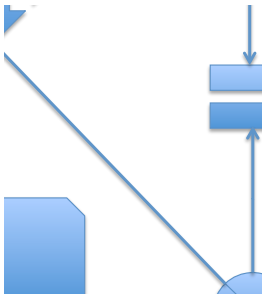

Figure 4.5: Caption for my figure4

Chapter 5

Algorithms

A template for typesetting algorithms is shown in PROCEDURE 5.

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
```

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