

10 Reports – style issues

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1 Recommendations

1.1 Document structure

- Documents are structured in chapters (in books only), sections, subsections, sub-subsections, and paragraphs.
- Use uppercase when making reference to a specific element: chapter, section, definition, theorem, table, algorithm, figure, etc.

... we show in Section 3 ... by Theorem 2, we know ... as illustrated in Figure 3 ...

- Do not refer to Subsection x as Section x ; same for Lemma y and Theorem y .
- In \LaTeX use labels to keep references consistent:

```
\section{Angle trisection}\label{sec:trisection}
...
our algorithm described in Section~\ref{sec:related}
```

- Keep titles as short as possible. Avoid repeating the title of a section in the subsections, e.g., 2. Definitions, 2.1 Definition of Implementation, 2.2 Definition of Platform, 2.3 Other definitions ...
- Avoid over-fragmentation of your text.

1.2 Page layout

- Lines should not be too long, leave space at page margins.
- Avoid using layout commands, such as $\backslash\backslash$, $\backslash\text{newpage}$.
- Use hard spaces to prevent undesirable line breaks: see Chapter~\ref{chap:analysis}, repeat~\\$n\\$ times, ...
- Also use hard spaces after the dot in abbreviations — inter-sentence spacing is usually larger than inter-word spacing: Prof.~John F.~Smith.

1.3 Mathematical text

- Sentences should still be sound if we leave out any mathematical expression (or if we replace it with “bla”).
- The first letter of a sentence should be uppercase. Do not start sentences with mathematical symbols, enumeration tags, etc.
- Separate mathematical expressions; use correct punctuation when listing formulae.
- Text in maths mode should be set as `\mathrm{}` or `\mathit{}`:

Bad: $\textit{left}(x) \geq \textit{min}, \textit{for all } x$
 $\$left(x) \geq \textit{min}, \textit{for all } x\$$

Good: $\textit{left}(x) \geq \textit{min}, \textit{for all } x$
 $\$mathit{left}(x) \geq \textit{min}, \textit{for all } x\$$

- Do not proliferate explicite descriptions of random events, use random variables instead.

Bad: $\text{Pr}(\textit{“}f \textit{ is computed correctly”}) = \dots$

Good: Let X_f be the random variable representing the event that the function f is computed correctly. Then, $\text{Pr}(X_f) = \dots$

- Do not redefine standard mathematical notation.
- When referring to mathematical symbols, qualify them.

Bad: The μ is always positive.

Good: The quotient μ is always positive.

- Maintain a reasonable balance between mathematical symbols and plain text.

Bad: If $L^+(P, N_o)$ is the set of functions $f : P \rightarrow N_o$ with the property that $\exists n_o \in N_o, \forall p \in P, p \geq n_o \Rightarrow f(p) = 0$ then there exists a bijection $N_1 \rightarrow L^+(P, N_o)$ such that, if $n \rightarrow f$, then $n = \prod_{p \in P} p^{f(p)}$, where p is a prime number and $N_1 = N_o \setminus \{0\}$.

Good: Each positive integer n can be expressed in the form:

$$n = 2^{m_2} 3^{m_3} 5^{m_5} 7^{m_7} 11^{m_{11}} \dots = \prod_{p \text{ prime}} p^{m_p},$$

where the exponents m_1, m_2, \dots are uniquely determined non-negative integers, and all but a finite number of the exponents are zero.