1 Introduction

Here is an a statement about big O, $3n^2 \in O(n^2)$. Here is the triple-equals equivalence sign: $P(n) \equiv n^2 \in O(n^3)$. Here are some inequalities: $4 < 5, 4 \leq 5, x \geq y$. Here is a more complicated exponent: $n^{x+5}$. Here is a subscript: $x_1, x_2, x_3, ..., x_n$. Here is a fraction $\frac{1}{2}$. Here is a set: $X \subset \{a, b, c\}$. Here is a sum: $\sum_{i=1}^{n} i = \frac{n(n+1)}{2}$. $\text{TeX}$ will put the sub and superscripts for a sum on top and bottom if you add the displaystyle command: $\frac{1}{2} \sum_{i=1}^{n} i = \frac{n(n+1)}{2}$. If you put a double money sign, TeX centers things in a math environment on its own line:

$$\int e^x \, dx = e^x$$

Equation arrays can be nice for adding line numbers. Lines are ended with a double backslash. Ampersands can be used to format the equations so all of the = signs line up.

$$x = y \quad (1)$$
$$a = b + c \quad (2)$$

You will get a line number even if there is only one thing in the eqn array:

$$P = Q \quad (3)$$

Here’s how to not get a line number:

$$3n^2 = 10y$$
$$53 = 7x \quad (4)$$

$\text{TeX}$ will probably hyphenate this if it would help make the text line up more nicely: Pneumonoultramicroscopicsilicovolcanoconiosis

Here is an itemized list

1. Foo
2. Bar

Here is a bulleted list

• Foo
• Bar

Here is an example of how to format psuedocode (this is how it is done in the CLR algorithms text book):

\begin{algorithm}
\caption{Pair-Set-To-Truncations($n, m, \{ (s_1, p_1), (s_2, p_2), \ldots, (s_n, p_n) \} )$}
\begin{algorithmic}[1]
\For {$i \leftarrow 1$ to $n$}:
\For {$t \leftarrow 1$ to $m$}:
\If {$S(s_i, t) = p_i$}:
\State $T[s_i] \leftarrow t$
\EndIf
\EndFor
\EndFor
\end{algorithmic}
\end{algorithm}
2 Conclusion

2.1 TeX is suave

2.1.1 to the max