1 Introduction

Here is a statement about big O, $3n^2 \in O(n^2)$. People also write $3n^2 = O(n^2)$ to mean the same thing. 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: $\sum_{i=1}^{n} i = \frac{n(n+1)}{2}$. TeX will put the sub and superscripts for a sum on top and bottom if you add the `\textstyle` command: $\sum_{i=1}^{n} i = \frac{n(n+1)}{2}$. 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:

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

TeX will probably hyphenate this if it would help make the text line up more nicely: Pneumonoultramicroscopicsilvilconiousis

Here is an itemized list

1. Foo
2. Bar

Here is a bulleted list

- Foo
- Bar

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

```
PAIR-SET-TO-TRUNCATIONS(n, m, {(s_1, p_1), (s_2, p_2), ..., (s_n, p_n)})
1 for i ← 1 to n:
2 for t ← 1 to m:
3 if S(s_i, t) = p_i:
4 \quad T[s_i] ← t
```
2 Conclusion

2.1 TeX is suave

2.1.1 to the max