\LaTeX\ is a typesetting program.

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- It can also be used just to type plain text.
\LaTeX is a typesetting program.  
It is mainly used by people whose work may involve mathematical symbols, equations, diagrams, etc.  
It can also be used just to type plain text.  
You can even use it to create powerpoint-like presentations!  
What sort of typesetting can it do?
Maple gives us very nice ways (and colors) to present tables, as well as:

<table>
<thead>
<tr>
<th>Mathematical Notation</th>
<th>[ \int_{0}^{10} e^{-x^2} , dx = \lim_{n \to \infty} \frac{10}{n} \sum_{j=1}^{n} e^{-\left(\frac{10j}{n}\right)^2}. ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematical Shorthand</td>
<td>[ \lim_{x \to c} f(x) = L \iff \forall \varepsilon &gt; 0, \exists \delta &gt; 0 \quad \exists 0 &lt;</td>
</tr>
<tr>
<td>Piecewise-Defined Functions</td>
<td>[ t = \begin{cases} \frac{1}{24} T + \frac{11}{4} &amp; \text{if } 30 \leq T \leq 36 \ \frac{4}{3} T - \frac{175}{4} &amp; \text{if } 36 &lt; T \leq 39 \end{cases} ]</td>
</tr>
</tbody>
</table>
... as well as:

<table>
<thead>
<tr>
<th>Equations</th>
<th>Matrices</th>
<th>Calculations</th>
</tr>
</thead>
</table>
| 5x + 7y = 0 | \[
\begin{pmatrix}
1 & 2 & 3 \\
4 & 5 & 6 \\
7 & 8 & 9 \\
\end{pmatrix}
\] | Volume = \[
\pi \int_0^2 x^4 + 2x^2 + 1 \, dx
\] |
|           |          | \[
= \pi \left[ \frac{x^5}{5} + \frac{2x^3}{3} + x \right]_0^2
\] |
|           |          | \[
= \pi \left[ \left( \frac{32}{5} + \frac{16}{3} + 2 \right) - 0 \right]
\] |
|           |          | \[
= \pi \left( \frac{96 + 80 + 30}{15} \right)
\] |
|           |          | \[
= \frac{206\pi}{15}
\] |
Downside: This kind of power doesn’t come for free. You have to learn formatting commands for each of these concepts.

To get:

\[
\int_0^{10} e^{-x^2} \, dx = \lim_{n \to \infty} \frac{10}{n} \sum_{j=1}^{n} e^{-\left(\frac{10j}{n}\right)^2}.
\]

You need to type:

$$\int_0^{10} e^{-x^2} \, dx = \lim_{n \to \infty} \frac{10}{n} \sum_{j=1}^{n} e^{-\left(\frac{10j}{n}\right)^2}.$$
Take it slow, and learn from people who already know \LaTeX!