Latex: Installation and usage guide
Requirements Engineering 2011

What is Latex?
Latex is a typesetting "tool" used in technical writing to automatically typeset a document according to a specific template. Common templates used in academia include the IEEE and Elsevier formats, used in academic articles for journals and conferences.

There are several benefits of using Latex. The first advantage is that it lets the writer focus on the writing rather than typesetting the entire document, including font sizes, spacing, etc. Another advantage is that Latex automatically keeps track of numbering for you, i.e. numbering of tables, images, sections, references, etc, which can become quite troublesome in larger documents. The largest advantage is however that Latex allows for swapping of style-files very easily so in a matter of seconds you can go from an IEEE styled document to an Elsevier document that would normally take you hours to convert. Also the end result simply looks much better and more professional. We strongly recommend you to at least try it out.

Where do I get Latex?
Latex compilers/environments are available for free online. Below are links and installation guides for Windows and for Mac.

Windows:
1. Follow this url: http://miktex.org/2.9/setup
2. A bit down on the page you will find an installer for Latex called: "Basic MiKTeX 2.9" Installer. Download it and install it in its default location and you are ready to go.
3. To typeset a text you simply select "typeset" from the menu and it will automatically generate a PDF for you. To generate a file with a specific typeset, i.e. IEEE, follow instructions further down in this document.

Mac:
1. Follow this url: http://www.tug.org/mactex/2010/morepackages.html
2. There are you should download the file "mactex-additions.mpkg.zip".
3. Unpack the file and install it. Once the installation is complete a folder will appear in your applications folder called "TeX". It includes different front-ends that you can use to write latex files and typeset them.
4. To typeset a text according to a specific typeset follow the instructions below.

Specific typesets:
1. To format a text to a specific style you need a style-file package. One such package is the IEEE style. Downloadable at this url: http://www.computer.org/portal/web/cscps/formatting. Download the Latex Package (Zip) on the left hand side of the page.
2. Once the file is downloaded move it to a folder where you want to work with your text and unzip the files.
3. Among the unzipped files there will be one called "bare_conf.tex". That is the latex file including a skeleton text that you can start your own text from.

4. If the installation of the tools described above in this document are correct, you should be able to open the ".tex" file in your tool and typeset it.
5. After pushing the typeset button or selected it from the menu you can enjoy your newly outputted perfectly formatted text in a pdf file ready for submission.

How do I write Latex typesetting code?
If you have downloaded any of the files above you can use them as editors to write both your text and the code. If you have also downloaded the IEEE style-files, as described above, they will also present you with the most basic and most commonly used latex style-setting commands. Below is however a short list of commonly used commands but more can easily be found by a simple Google search.

\section{a_Title_name} – Creates a new heading over a specific text

\subsection{a_SubTitle_name} – Creates a subheading under a heading.

\subsubsection{a_SubTitle_of_a_SubTitle_name} – Creates a subheading under a subheading.

And so on! – Usually more than 2 subsections are not permitted!

\label{a_label_name} – Create a reference point to a specific place in a text.
Example: \section{Introduction}\label{intro}

\ref{a_label_name} – Adds the reference point in the text where you are.
Example: ...as described in section \ref{intro}, where...

\cite{a_reference_name} – Works like ref, but for references normally added in another file with the suffix ".bib".

For more useful commands follow the url:
http://lahelper.sourceforge.net/mini_latex_tutorial.html