\section*{LaTeX page formatting}

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- Setting margins with built in lengths.

\begin{itemize}
  \item Input (for 8.5 \times 11 paper):
    \begin{verbatim}
    \topmargin=0in
    \headheight=0in
    \headsep=0in
    \textheight=9in
    \oddsidemargin=0in
    \textwidth=6.5in
    \end{verbatim}

  \item Output (showing the paper and text area):
    \includegraphics[width=0.5\textwidth]{paper_text_area}

  \item Note three things. (1) The left margin is controlled by \texttt{\oddsidemargin}, the right margin is defined implicitly by adding the left margin and the text width. (2) The top margin is controlled by \texttt{\topmargin} (and \texttt{\headheight} and \texttt{\headsep}), the bottom margin is defined implicitly by these lengths and \texttt{\textheight}. (3) The left margin and the top margin are measured from a default position of 1 inch. Thus, \texttt{\oddsidemargin=0in} results in 1 inch real margin, \texttt{\oddsidemargin=-0.5in} results in 0.5 inch real margin, etc.

- Margins with \texttt{geometry} package:
  \begin{verbatim}
  \usepackage[text={6.5in,9in}]{geometry}
  \end{verbatim}
  one inch margins on left, right, top and bottom.

- Paragraphs: indentation and space between.
  \begin{verbatim}
  \parindent=0.1in \parskip=0.2in
  \end{verbatim}
  \texttt{\parindent} = 0.1 inches. \texttt{\parskip} = 0.2 inches.

- Line spacing with built in commands (put in preamble)
  For one and a half spacing:
  \begin{verbatim}
  \renewcommand{\baselinestretch}{1.25}
  \end{verbatim}
  For double spacing:
  \begin{verbatim}
  \renewcommand{\baselinestretch}{1.66}
  \end{verbatim}

- Line spacing with package \texttt{setspace}
  For one and a half spacing:
  \begin{verbatim}
  \usepackage[onehalfspacing]{setspace}
  \end{verbatim}
  For double spacing:
  \begin{verbatim}
  \usepackage[doublespacing]{setspace}
  \end{verbatim}

- Two columns for whole document:
  \begin{verbatim}
  \documentclass[twocolumn]{article}
  \end{verbatim}

- \( n \) columns for any region using \texttt{multicol} package.

  \begin{verbatim}
  Example 1. \documentclass{article} \usepackage{multicol} \begin{document}
  This is one column of text all the way across the page.
  \begin{multicols}{2}
  This text will go into two columns once we get enough text so that it will wrap and fill both columns. This is meaningless but I must keep going.
  \end{multicols}
  \end{document}
  \end{verbatim}

\begin{itemize}
  \item Output:
    \begin{verbatim}
    This is one column of text all the way across the page.
    This text will go into two columns once we get enough text so that it will wrap and fill both columns. This is meaningless but I must keep going.
    \end{verbatim}

- Page numbers.
  \begin{verbatim}
  \pagestyle{empty} causes no page number to print
  \pagestyle{plain} puts page number at bottom center
  \pagestyle{headings} puts page number at top right (and section headings top left)
  \end{verbatim}

- Headings with \texttt{fancyhdr} package
  Input:
  \begin{verbatim}
  \documentclass{article} \usepackage{fancyhdr} \pagestyle{fancy} \lhead{AAA} \rhead{p. \thepage} \cfoot{XXX} \renewcommand{\headrulewidth}{0pt} \begin{document}
  \end{verbatim}

  \begin{itemize}
  \item Output:
    \begin{verbatim}
    AAA p.1 XXX
    \end{verbatim}
  \end{itemize}

  \begin{verbatim}
  There are also commands for \texttt{\chead}, \texttt{\lfoot} and \texttt{\rfoot}
  \end{verbatim}