Note that like most formatting commands, you should not be entering the following commands very often. You should rely on previously defined environments, or create your own new environments, with the spacing built in.

- **Horizontal spacing**

  Input:
  \[ a \! b \quad a \! b \quad a \! b \quad a \! b \quad a \! b \quad a \! b \quad a \! b \quad a \! b \quad a \! b \quad a \! b \]

  Output:
  \[ a b a b a b a b a b a b a b a b a b a b a b a b a b \]

  Three things to note: (1) \! only works in math mode. (2) \hspace is continuous, you can plug in any length you want. (3) to make \hspace work at the beginning of a line you need to use \hspace*.

- **Vertical spacing**

  Input:
  \[ \text{end.} \quad \text{Begin} \quad \text{smallskip} \quad \text{medskip} \quad \text{bigskip} \quad \text{\textbackslash vspace\{0.33in\}} \]

  Output:
  \[ \text{end.} \quad \text{Begin} \quad \text{smallskip} \quad \text{medskip} \quad \text{bigskip} \quad \text{\textbackslash vspace\{0.33in\}} \]

  Four things to note: (1) “end” and “Begin” represent the end and beginning of paragraphs. The commands shown here need to appear in the gap between two paragraphs. (2) \vspace can take any length as it’s input. (3) To make \vspace work at the top of the page you need to use \vspace*.

- **Flexible horizontal spacing:** stretches to make equal spacing.

  Input:
  \[ (a) \ \text{\textbackslash hfill} \quad (b) \ \text{\textbackslash hfill} \quad (c) \ \text{\textbackslash hfill} \quad (d) \ \text{\textbackslash hfill} \ \text{\mbox{}} \]

  Output:
  \[ (a) \quad (b) \quad (c) \quad (d) \]

  To make \hfill work at the end of a line you need to put an invisible box after it.

- **Flexible vertical spacing:** stretches to make equal spacing.

  Input:
  \[ \text{\mbox{}} \quad \text{\textbackslash vfill} \quad (a) \quad \text{\textbackslash vfill} \quad (b) \quad \text{\textbackslash vfill} \quad (c) \quad \text{\textbackslash vfill} \quad (c) \quad \text{\textbackslash vfill} \quad (c) \quad \text{\textbackslash vfill} \quad (c) \]

  Output:
  \[ \text{\mbox{}} \quad \text{\textbackslash vfill} \quad (a) \quad \text{\textbackslash vfill} \quad (b) \quad \text{\textbackslash vfill} \quad (c) \quad \text{\textbackslash vfill} \quad (c) \quad \text{\textbackslash vfill} \quad (c) \quad \text{\textbackslash vfill} \quad (c) \quad \text{\textbackslash vfill} \quad (c) \quad \text{\textbackslash vfill} \quad (c) \]

  To make \vfill work at the beginning of the page you need to put an invisible box before it. One application of this command is to make a title page, using \mbox{\textbackslash vfill ***** \textbackslash vfill} where ***** would be replaced by your title.