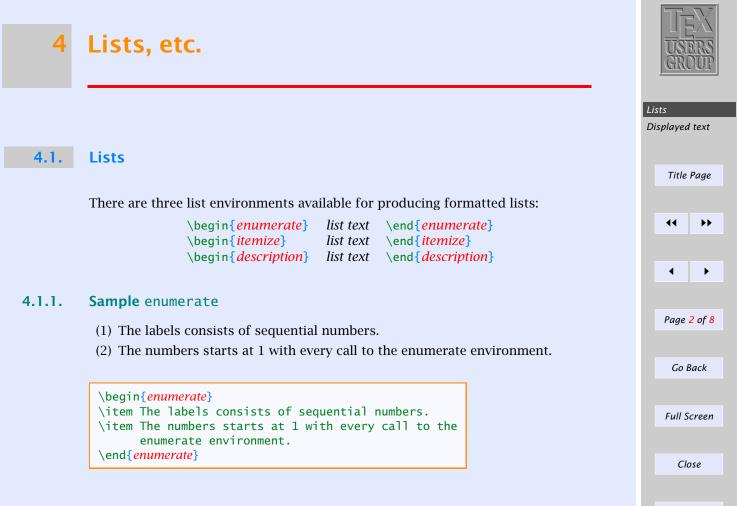# Indian TEX Users Group

4

On-line Tutorial on LATEX

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4   Lists, etc.

4.1.   Lists

There are three list environments available for producing formatted lists:

\begin{*enumerate*}   *list text*   \end{*enumerate*}
\begin{*itemize*}   *list text*   \end{*itemize*}
\begin{*description*}   *list text*   \end{*description*}

4.1.1.   **Sample** enumerate

(1) The labels consists of sequential numbers.
(2) The numbers starts at 1 with every call to the enumerate environment.

```
\begin{enumerate}
\item The labels consists of sequential numbers.
\item The numbers starts at 1 with every call to the
      enumerate environment.
\end{enumerate}
```

4.1.2. Sample `itemize`

- The individual entries are indicated with a black dot, so-called bullet.
- The text in the entries may be of any length.

```
\begin{itemize}
\item The individual entries are indicated with a black dot,
      a so-called bullet.
\item The text in the entries may be of any length.
\end{itemize}
```

4.1.3. Sample `description`

Purpose: This environment is appropriate when a number of words or expressions are to be defined. This environment is appropriate when a number of words or expressions are to be defined.

Example: It may also be used as an author list in the bibliography.
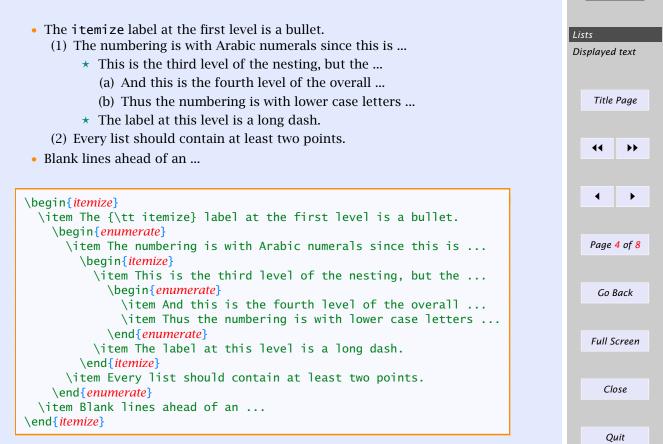
```
\begin{description}
\item[Purpose:] This environment is appropriate when a number of
               words or expressions are to be defined. This
               environment is appropriate when a number of words or
               expressions are to be defined.

\item[Example:] It may also be used as an author list in the
               bibliography.
\end{description}
```
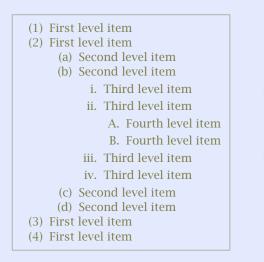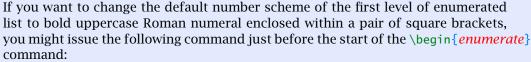
4.1.4. Nesting of lists

The above lists may be included within one another, either mixed or of one type, to a depth of four levels. An example of a nested list with mixed types:

- The `itemize` label at the first level is a bullet.
  1. The numbering is with Arabic numerals since this is ...
     - ⋆ This is the third level of the nesting, but the ...
       (a) And this is the fourth level of the overall ...
       (b) Thus the numbering is with lower case letters ...
     - ⋆ The label at this level is a long dash.
  2. Every list should contain at least two points.
- Blank lines ahead of an ...

```
\begin{itemize}
  \item The {\tt itemize} label at the first level is a bullet.
    \begin{enumerate}
      \item The numbering is with Arabic numerals since this is ...
        \begin{itemize}
          \item This is the third level of the nesting, but the ...
            \begin{enumerate}
              \item And this is the fourth level of the overall ...
              \item Thus the numbering is with lower case letters ...
            \end{enumerate}
          \item The label at this level is a long dash.
        \end{itemize}
      \item Every list should contain at least two points.
    \end{enumerate}
  \item Blank lines ahead of an ...
\end{itemize}
```

4.1.5. Manipulation of list numbers

(1) First level item
(2) First level item
    (a) Second level item
    (b) Second level item
        i. Third level item
        ii. Third level item
           A. Fourth level item
           B. Fourth level item
       iii. Third level item
       iv. Third level item
    (c) Second level item
    (d) Second level item
(3) First level item
(4) First level item

The default numbering scheme of list level 1 is Arabic numbers, level 2 is lowercase letters, level 3 is lower case Roman numeral and level 4 is uppercase letters. These numbers can be changed by redefining the commands that typeset the numbers of various list levels. `\theenumi`, `\theenumii`, `\theenumiii` and `\theenumiv` correspond to the number label in different levels of enumerated lists. `\labelenumi`, `\labelenumii`, `\labelenumiii` and `\labelenumiv` relate to the attributes of the number label in different levels of itemized lists.

If you want to change the default number scheme of the first level of enumerated list to bold uppercase Roman numeral enclosed within a pair of square brackets, you might issue the following command just before the start of the `\begin{`*enumerate*`}` command:

```
\renewcommand\theenumi{\Roman{enumi}}
\renewcommand\labelenumi{[{\bfseries\theenumi}]}
```

  [I] First level item
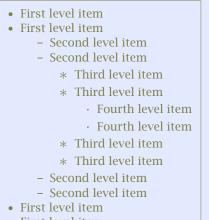 **[II]** First level item

The commands `\arabic`, `\roman`, `\Roman`, `\alph`, `\Alph` will yield Arabic number (1,

2, 3, ...), lowercase Roman numeral (i, ii, iii, ...), uppercase Roman numeral (I, II, III, ...), lowercase alphabet (a, b, c, ...) and uppercase alphabet (A, B, C, ...) respectively.

4.1.6. Manipulation of list labels

- First level item
- First level item
    - Second level item
    - Second level item
        * Third level item
        * Third level item
            · Fourth level item
            · Fourth level item
        * Third level item
        * Third level item
    - Second level item
    - Second level item
- First level item
- First level item

The default label scheme of itemized list level 1 is `\textbullet` (•), level 2 is `\textendash` (–) , level 3 is `\textasteriskcentered` (∗) and for level 4 is `\textperiodcentered` (·). These labels can be changed by redefining the commands that typeset the labels of various list levels. `\labelitemi`, `\labelitemii`, `\labelitemiii` and `\labelitemiv` correspond to the labels in different levels of itemized lists. If you want to change the default label scheme of the first level of itemized list to unfilled square, you might issue the following command just before the `\begin{`*itemize*`}` command:

```
\renewcommand\labelitemi{$\square$}
```

□ First level item
□ First level item

4.2.   Displayed text

Quite often we might be needed to typeset text material in a different way than the ordinary sentences to highlight its importance. These are normally called *displayed text*. LATEX provides three environments, quote, quotation and verse for displaying your text, the normal usage is shown below:

\begin{*quote*}	text	\end{*quote*}
\begin{*quotation*}	text	\end{*quotation*}
\begin{*verse*}	text	\end{*verse*}

A section of text will be displayed by indenting it by an equal amount on both sides, with these environments.

4.2.1.   Quote and quotation

The example of quote environment given below is self explanatory. The left box gives you the code and right one is the typeset output.

```
... example of a short displayed
quotation.
\begin{quote}
It's a good idea to make your input
file as easy to read as possible.
\end{quote}
```

The following is an example of a short displayed quotation.

> It's a good idea to make your input file as easy to read as possible.

quote is limited to a single paragraph, while quotation can be used to display texts running to paragraphs.

Lists

Displayed text

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◀   ▶

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4.2.2. Poetry

Poetry is displayed with the `verse` environment. A new stanza is begun with one or more blank lines; lines within a stanza are separated by `\\` command.

```
\begin{verse}
 There is an environment for verse
 Whose features some poets will curse

 For instead of making
 Them do \emph{all} line breaking,
 It allows them to put many words on a line when they'd rather be
 forced to be terse.
\end{verse}
```

The above code will generate the following output:

> There is an environment for verse
> Whose features some poets will curse
>
> For instead of making
> Them do *all* line breaking,
> It allows them to put many words on a line when
>   they'd rather be forced to be terse.

Lists

Displayed text

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