

# Lists

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There are three types of lists (itemize, enumerate and description) There is also a generic `list`, which is seldom used directly. An unordered list is called “itemized”:

- This is the first item, which can occupy one or more lines. Note that other lines are indented with the first.
- Short second item.
- Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna.

We may have more than one paragraph per item.

- Nested lists look odd if there is no text:
  - We can have nested lists (up to four levels)
  - Introduction to the next level:
    - \* A third level item
    - \* Another third level item
  - Here is a new item.
  - ↑ Weird symbol
- A final item at the outer level

You should avoid very long lists, especially if each item is very long or has more than one paragraph.

And now, an enumeration.

1. This is the first item, which can occupy one or more lines. Note that other lines are indented with the first.
2. Short second item.
3. Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.  
We may have more than one paragraph per item.
4. Nested lists look odd if there is no text:
  - We can have nested lists (up to four levels)
  - Introduction to the next level, which is an `enumerated` list
    - (a) A third level item
    - (b) Another third level item
    - (c) Yet another one
  - Here is a new item.
  - ↑ Weird symbol
5. A final item at the outer level

And finally, a description list:

**Gnu** This is the first item, which can occupy one or more lines. Note that other lines are indented with the first.

**Zebra** Short second item.

We may have more than one paragraph per item.

**Pets** There are several types of pets:

**friendly** Dogs and cats

**unfriendly** Camel

**dangerous** Snake

**whale** A final item at the outer level

The package `enumitem` allows extensive customization of lists (available at <http://www.ctan.org/pkg/enumitem>).

A normal item list (slightly reduced):

- This is the first item, which can occupy one or more lines. Note that other lines are indented with the first.
- Short second item.
- Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

We may have more than one paragraph per item.

- Nested lists look odd if there is no text:
- A final item

Now, if you use:

```
\begin{itemize}[itemsep=2ex,leftmargin=2cm]
```

you get

- This is the first item, which can occupy one or more lines. Note that other lines are indented with the first.
- Short second item.
- Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.  
We may have more than one paragraph per item.
- Nested lists look odd if there is no text:
- A final item

With the `enumitem` package you can change the labels. For instance,

```
\begin{enumerate}[label=\emph{\alph*}]
```

produces

*a)* First item

*b)* Second item

You can also define new types of lists using this package.  
After defining (possibly in the preamble)

```
\newlist{legal}{enumerate}{10}  
\setlist[legal]{label*=\arabic*.
```

you get a list has concatenated sub-labels.

```
\begin{legal}  
  \item First item  
  \item second item  
  \begin{legal}  
    \item a sub-item  
    \item another sub-item  
  \end{legal}  
\end{legal}
```

produces

1. First item
2. second item
  - 2.1. a sub-item
  - 2.2. another sub-item

And many more options ...