10 Changing things

Do not change things unless you have to!

LaTeX is an *intensional* language so you should give instructions along the lines of "change to the suitable font for emphasis" rather than "change to italics". As we saw in section 6.5, the way to change font for emphasis is with the `\emph` command:

```
But, by thunder! if it don't make me cold
inside to think of Flint.  This is one of
\emph{his} jokes, and no mistake.
```

But, by thunder! if it don't make me cold inside to think of Flint. This is one of *his* jokes, and no mistake.

Now, if the final printer of the document being provided decides that emphasized text should be underlined, rather than italicized, this can be done simply by changing the definition of `\emph`, and leaving the body of the text unchanged:

But, by thunder! if it don't make me cold inside to think of Flint. This is one of <u>his</u> jokes, and no mistake.

10.1 Defining new commands

This is all very well for emphasis, but what if you need some distinguishing feature for something other than emphasis? For example, in the text of "Treasure Island" there is much reference to ships' names. In the copy of the book the author owns, the names are in italics. The names might also be wanted in roman script but within quotation marks. We will start with an example of a `\shipname` command which will simply enclose its arguments in quotation marks. The following definition goes in the *preamble*:

```
\newcommand{\shipname}[1]{``{#1}''}
```

Let us consider that command, piece by piece:

`\newcommand`: This is the command that introduces a new command. It cannot be used to change an existing command.

`\shipname`: `\newcommand`'s first argument is the name of the command being created.

`[1]`: `\newcommand` takes an optional argument which is the number of arguments the new command will take. The default value is zero.

`''{#1}''`: The final argument is the text that will be substituted for `\shipname{`*ship*`}`. `#1` will be replaced with the first argument passed to `\shipname`.

Braces are placed around `#1` as a precaution. If a command is passed within the argument to `\shipname` that would effect the behaviour of text beyond it, then this causes the change to be limited to within the brackets.

The result of this command is that we can now enter text like the following:

```
The \shipname{Hispaniola} was under her
mainsail and two jibs, and the beautiful
white canvas shone in the sun like snow or
silver.
```

to get output like this:

> The “Hispaniola” was under her mainsail and two jibs, and the beautiful white canvas shone in the sun like snow or silver.

10.2 Changing Fonts

The fonts that LaTeX has at its disposal are parameterized by three values:

The family: By default, you get Computer Modern Roman. Alternatives available usually are Computer Modern Sans (a *sans serif* font) and Computer Modern Typewriter.

The series: This specifies the width and weight (“boldness”). The default is a medium series with boldface also available.

The shape: The default shape is "upright". Alternatives typically available include italics, slanted and "small caps".

These three parameters are meant to be orthogonal; you can change the family, series and shape independently if your system has all the various combinations available to it. But typically it won't. For example, consider the following tables generated on a standard LaTeX installation:

Roman	Medium series	Bold face
Upright	The quick brown fox	**The quick brown fox**
Italic	*The quick brown fox*	***The quick brown fox***
Slanted	*The quick brown fox*	***The quick brown fox***
Small caps	THE QUICK BROWN FOX	**The quick brown fox**
Sans serif		
Upright	The quick brown fox	**The quick brown fox**
Italic	*The quick brown fox*	**The quick brown fox**
Slanted	*The quick brown fox*	**The quick brown fox**
Small caps	THE QUICK BROWN FOX	**The quick brown fox**
Typewriter		
Upright	`The quick brown fox`	`The quick brown fox`
Italic	*The quick brown fox*	*The quick brown fox*
Slanted	*The quick brown fox*	`The quick brown fox`
Small caps	`THE QUICK BROWN FOX`	`The quick brown fox`

As can be seen, LaTeX has failed to provide some of the bold face combinations, and has attempted a "best fit" in these cases.

And now to the meat of the matter: the commands for modifying fonts are illustrated in table 6.

So, if I wanted my ship names to be in italics, I would use the line

```
\newcommand{\shipname}[1]{\textit{#1}}
```

in the preamble and all the shipnames flagged by `\shipname` would be changed to the new style of having italics names, rather than the old style of quoted names.

These commands can be "stacked". If I want bold italics, I can request `\textbf{\textit{TEXT}}` or `\textit{\textbf{TEXT}}`.

`\textrm{Roman family}`	Roman family
`\textsf{Sans serif family}`	Sans serif family
`\texttt{Typewriter family}`	`Typewriter family`
`\textup{Upright shape}`	Upright shape
`\textit{Italic shape}`	*Italic shape*
`\textsl{Slanted shape}`	*Slanted shape*
`\textsc{Small caps shape}`	SMALL CAPS SHAPE
`\textmd{Medium series}`	Medium series
`\textbf{Boldface series}`	**Boldface series**

Table 6: Font modifying commands

Explicit font changing has no place in the body of the document. You should decide *why* you want to change font, and then create a new command that deals with that specific reason. If you want to italicize ship names, then you should write a `\shipname` command, define it to do italicizing in the preamble, and use `\shipname` throughout the body of the document.