Workshop on "Document Typesetting and Processing with LaTeX"

Session: Cross-Referencing and Hyper-linking

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Motivation

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1 Motivation

The Label-Ref. thing

Useful Packages

End Remarks

Modern documents include apart from body text, equations, figures, tables, links to the website, and most importantly references.

All documents parts are described in the body text, and therefore, they need to be linked. Cross-referencing does this.

Documents often are linked with internet links and contain internet related information such as e-mail addresses. These can be linked using hyperlink.

Cross-linking is one of the strength of the LaTeX typesetting.

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The most important specifier

LaTeX required only two commands for cross-referencing. They are:

- ▶ \label{key}, where **"key"** is identifier, which could be any text or text and number.

- ▶ \ref{key}, where the **"key"** must be identical to the key used with **label** specifier.

Let us check that in an example.

The Link−Ref. thing II

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A Example

```
\section{Greetings}\label{sec:greetings}
   Hello! welcome to \LaTeX{} workshop.

\section{Referencing}
   I greeted in section~\ref{sec:greetings}.
```

Results to:

1 Greetings

Hello! welcome to LATEX workshop.

2 Referencing

I greeted in section 1.

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Positioning the \label{key}

The \label{key} can be placed anywhere, in principle, and then be referred. Some exceptional are:

1. In **figure** and **table** environments, \label{key} has to be placed after (or inside) the \caption{ } specifier in order to get the correct referring.

2. In the **equation** environment \label{key} is placed just after the \begin{equation} specifier, e.g.

```
\begin{equation} \label{eq:solve}
x^2 - 5 x + 6 = 0
\end{equation}
```

Useful Packages I

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The amsmath package

The **amsmath** package provide the following four very useful specifier:

1. The \eqref{ } specifier, which adds brackets so that, instead of printing a plain number as 5, it will print (5).

2. The \tageqno sets eqno can be any arbitrary string specifying the equation number.

3. The \numberwithin{equation}{section} adds section numbers to the eqaution number.

Useful Packages II

The hyperref package

The package **hyperref** provides LaTeX the ability to create hyperlinks within the document. Once loaded, the possibility to include interactive external links and all internal references turns to hyperlinks.

The hyperref package is loaded in preamble as:
\usepackage{hyperref}.

Among the most useful hyperref commands are:

▶ The \href{my_url}{<description>}; e.g. Sharda University

▶ The
\href{mailto:mailme@email.com}{mailme@eamil.com}
provides the possibility to link your document to email
address. e.g. ruban.sugumar@sharda.ac.in

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Cross-referencing in LATEX is simple and very extensive. Several additional packages further extends cross-referencing within and to the internet. Following references can be used for advancing knowledge.

▶ The hyperref package is very extensible, detail can be found here.

▶ Some addition packages for cross-referencing are: varioref, for page referencing, nameref, for section naming, intelligent cross-referencing etc.

▶ Good tutorial on cross-referencing can be found here and here.