Workshop on
Document typesetting and Processing using LaTeX

Session: Bibliography in LaTeX

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Motivation

Standard documents require proper referencing and bibliography. Key points with LaTeX bibliography management are:

1. Very flexible bibliography styling.

2. Very simple conversion between different bibliography style.

3. Flexible cross-referencing and hyper-linking.

4. Possibility to manage references material using independent tools e.g. Endnote[®], Bibtex.

   We will explore first a basic referencing in LaTeX and follow it up with a very flexible NATBIB package.

thebibliography Environment I

Referencing involves two information: The **Citation** and the detail of the citation- the **complete reference information**.
We with start with the latter.

The environment for providing reference information is: \begin{ thebibliography}{options}. A typical code is:

```
\begin{thebibliography}{9}

\bibitem{lamport94}
  Leslie Lamport,
  \emph{\LaTeX: A Document Preparation System}.
  Addison Wesley, Massachusetts,
  2nd Edition,
  1994.
\end{thebibliography}
```

thebibliography Environment II

The **options** in \begin{ thebibliography}{options} refers to the width of the widest label in the bibliography. We use the value $1 - 9$ if the document has up to **9** references, and **any two digit number**, e.g. 56, if the document has **9 and 99** references.

In \bibitem{lamport94}, \bibitem specifier which identifies **"lamport94"** as the citation. The identifier can be in any format,

Finally, we use \cite[options]{lamport94} to cite in the text. In **options** we can add any text information that we want to appear in the citation, e.g. [p. 215], referring to page number 215 of the Lamport book published in 94.

thebibliography Environment III

Lets us look at an example.

Refernce Citing Example

```
We appreciate the great work in \cite{knuth2014},
which let us write our work more beautifully
\cite[p. 200]{lamport94}.
```

This will result to, assuming the 2 references information:

Output

```
We appreciate the great work in [2], which let us
write our work more beautifully[1, p. 200] .

References
[1] Leslie Lamport, \LaTeX: A Document Preparation System. Addison Wesley,
Massachusetts, 2nd Edition, 1994.
[2] nuth, Donald Ervin. \The Art of Computer Programming (TAOCP)".
Retrieved February 01, 2014.
```

The natbib package

The natbib package extends the citation in LaTeX writing, catering to the requirements of most of the scientific literature. The basic commands are:

In the preamble (before the \begin{document}) command we add:

1. \usepackage[options]{natbib}. Options are usually- authoryear, square, comma, numbers etc. More will be defined later.

2. \bibliographystyle{styles}. Styles are provided by publishers e.g. rsc, nature, IEEEtranN, etc., but can also be customized. The file type is ".bst".

natbib also extends the \cite command, we see how.

The natbib package

Several ways to cite using natbib package:

Citation Command		Output
\citet{goossens93}	$\Rightarrow$	Goossens et al. (1993)
\citep{goossens93}	$\Rightarrow$	(Goossens et al., 1993)
\citet*{goossens93}	$\Rightarrow$	Goossens, Mittlebach, and Samarin (1993)
\citep*{goossens93}	$\Rightarrow$	(Goossens, Mittlebach, and Samarin, 1993)
\citealt{goossens93}	$\Rightarrow$	Goossens et al. 1993
\citealp{goossens93}	$\Rightarrow$	Goossens et al., 1993
\citetale91,rav92	$\Rightarrow$	Alex et al. (1991); Ravi et al. (1992)
\citep[see][chap. 4]ale91	$\Rightarrow$	[see Alex 1991, chap. 4]

Finally, we re-visit the citation information input using natbib package.

The natbib package

The natbib package provides an option for the \bibitem command, i.e. we now use: \bibitem[custom text]{ ref. identifier}. Examples:

Refernce details in input

```
\begin{thebibliography}{99}
\bibitem[Leslie(1985)]{les85}Leslie Lamport, 1985.
\LaTeX{} -A Document Preparation...
\bibitem[Donale(2000)]{don89}Donald E. Knuth, 1989.
Typesetting Concrete Mathematics,.....
\end{thebibliography}
```

Output

```
References

Leslie Lamport, 1985. LaTeX -A Document Preparation...
Donald E. Knuth, 1989. Typesetting Concrete Mathematics,...
```

Final Notes

LaTeX simplifies the referencing works of the document. The preceding slides only briefly introduced the referencing using LaTeX. Following suggestions can be helpful.

1. Detail at the wikipedia site.

2. Different bibliography management software that can provide output for LaTeXcan be found here

3. More packages to manage complex bibliography, e.g. multiple bibliography, Chapter-wise bibliography, unit-wise bibliography etc.

4. A good LaTeX tutorial.

Cross–referencing,
Hyperlinking...

Last but not least...,