

Formatting Instructions for *MOR* Articles

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The abstract is limited to one paragraph of at most 150 words. Note that it is not indented. It should contain no references and no equations. Following the abstract please enter the following items:

1. Key words
2. MSC Subject Classification, identifying primary and secondary codes
3. OR/MS classification, also identifying primary and secondary).

Key words: first keyword; second phrase; etc.

MSC2000 Subject Classification: Primary: 99999, 88888; Secondary: 88888, 77777 (See the MSC2000 codes at <http://www.ams.org/msc/>)

OR/MS subject classification: Primary: xxxx, yyyy; Secondary: zzzz (See the OR/MS classification at <http://mor.pubs.informs.org/ORSubject.pdf>)

History: Received: Xxxx xx, xxxx; revised: Yyyyyy yy, yyyy and Zzzzzz zz, zzzz.

1. The template and style files. Authors are requested to use the template file `template.tex` and the style file `MOR.sty`. Please do not change the formatting parameters that are set in `article.cls` and `MOR.sty`. In particular, font sizes should not be changed. However, if you have to include a simple mathematical object in the title (e.g., $O(n \log n)$), please declare it as Large:

```
{\Large $O(n \log n)$}
```

Please start your `.tex` file with:

```
\documentclass[twoside]{article}  
\usepackage{mor}
```

`mor.sty` uses the packages: `theorem`, `amssymb`, `graphicx` and `hyperref`. If you have to use additional packages, please place all the `\usepackage{}` commands *before* `\usepackage{mor}`.

2. Active links. On important feature still missed by many L^AT_EX users is the option of incorporating active links in their documents. Using `MOR.sty`, all the `\ref{}` and `\cite{}` commands (see below) automatically create active links in the resulting pdf file. The reader can jump from the reference point to the referenced location, which may a section heading, a theorem, a figure, an equation, or a bibliographic item. The author can further help the reader by incorporating hyper-references using URLs. For example, the command

```
\url{http://www.citeseer.com}
```

results in the following text, which is also “clickable:” <http://www.citeseer.com>. This is especially useful when some of the references in the paper are publicly available on the Internet, e.g., [1]. A more flexible command is `\href{}{}`. For example, the command

```
\href{http://www.citeseer.com}{Citations}
```

results in the following: Citations, where a click on “Citations” opens a connection the CiteSeer site.

Additional targets can be created and linked to within the document (see the hyperref manual). In this sample, the email address and the author’s home page are linked.

3. Some basics. Please use only `{\em ...}\` to emphasize. For example, enter

```
In this sentence {\em this}\ is emphasized
```

to obtain

In this sentence *this* is emphasized.

An equation may appear either without a label

$$x = y$$

or with a label

$$X = Y \tag{1}$$

In equation 1, there is a label. In addition to the L^AT_EX `eqnarray` environment for aligning equations, you *can* use the “obsolete” T_EX command `\eqalign{}` which sometimes produces better results.

$$\begin{array}{l} \text{Maximize } 2x + y \\ \text{s.t. } x + y \leq 3 \end{array}$$

4. Authors’ information. Please enter authors’ names and other information exactly as they are appear in the template.

5. Sectioning. Start a new section with

```
\section{Your section title.} \label{yourlabel1}
```

Since the text of the section begins in the same line, please end the title with one of ‘.’, ‘?’, ‘!’ etc. The label `\label{yourlabel1}` can be used to *refer* to this section anywhere in the paper by entering `Section \ref{yourlabel1}`. For example, the label that was used in the present document to refer to the present section is `\label{sections}`. A reference to this section can be made by the command `\ref{sections}`, resulting as follows. Section 5.

Similarly, “sub-section” and “sub-sub-section” can be declared by

```
\subsection{The sub-section title.} \label{sublabel}
```

and

```
\subsubsection{The sub-sub-section title.} \label{subsublabel}
```

For example, here is a sub-section:

5.1 An example of a sub-section. This is the text of sub-section 5.1. A sub-sub-section can also be declared and here is an example:

5.1.1 An example of a sub-sub-section. This is the text of a sub-sub-section 5.1.1.

6. Theorems, Lemmas, Propositions, etc. Place the text of the theorem between

```
\begin{theorem} \label{yourlabel12}
```

and (this is where the text of the theorem is entered)

```
\end{theorem}
```

The label `\label{yourlabel2}` can be used to *refer* to this theorem anywhere in the paper by entering `Theorem \ref{yourlabel2}`. The theorem will appear italicized as follows.

THEOREM 6.1 *This is the text of the theorem.*

and the reference will be to Theorem 6.1. Similarly, place the text of a lemma between

```
\begin{lemma} \label{yourlabel13}
```

and

```
\end{lemma}
```

and the text of a proposition between

```
\begin{proposition} \label{yourlabel14}
```

and

```
\end{proposition}.
```

The other theorem-like environments are `assumption`, `corollary` and `definition`.

If your theorem has several parts, please do the following

```
\begin{theorem} \label{theorem} \  
\begin{enumerate}  
\item  
First part.  
\item  
Second part.  
\end{enumerate}  
\end{theorem}
```

which results in

THEOREM 6.2

- (i) *First part.*
- (ii) *Second part.*

6.1 Examples. Another theorem-like environment is `example`. Examples that are entered using this environment are numbered automatically and referenced just like theorems. The text of the example will be italicized like a theorem, unless you write `\begin{example}\rm`.

The `\ref{}` command is used to reference any theorem-like environment exactly as in a reference to a theorem.

7. Proofs, Proofofs, Claims and Cases. Place the text of a proof between

```
\begin{proof}
```

and (this is where the text of the proof is entered)

```
\end{proof}
```

A QED symbol, \square , is placed automatically at the end of each proof. For example, a proof looks as follows.

PROOF. This is a text of the proof. \square

When the proof of a theorem, a lemma, etc., appears not immediately after the theorem, the `proof` environment should be used as follows. If it is the proof of a theorem whose label is `\label{theo2}`, then a delayed proof should be as follows.

```
\begin{proofof}{Theorem \ref{theo2}}
```

and (this is where the text of the proof is entered)

```
\end{proofof}
```

For example,

PROOF OF THEOREM 6.1. This is a text of the proof of that theorem. \square

If you state claims within a proof, please start a new paragraph with, for example,

```
{\sc Claim 7.}
```

which will appear as

CLAIM 7. This is the text of the Claim 7.

Similarly, if you distinguish cases, please start a new paragraph with, for example,

```
{\sc Case 2.}
```

which will appear as

CASE 2. This is the text of the Case 2.

8. Citations. Citations within the text should be by authors names, followed by the reference number, as in the following example. To cite reference 3 in this document, enter

```
...shown by Gale et al.~\cite{GKT}.
```

which results in

...shown by Gale et al. [4].

To cite Theorem 1 in reference 4, enter

```
...was known (Karmarkar and Karp \cite[Theorem 1]{KK})
```

which results in

...was known (Karmarkar and Karp [5, Theorem 1]). The year of publication may also be mentioned; for example, Gale et al. (1951) [4].

9. Figures. Prepare your figures as Encapsulated PostScript files (.eps). For example, to display the figure in `figure1.eps`, you can use the `figure` environment and supply a caption as follows.

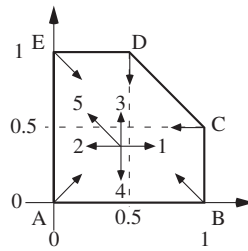


Figure 1: This is the figure.

```
\begin{figure}[h]
  \begin{center}
    \includegraphics*[scale=0.8]{figure1.eps}
    \caption{\label{fig1} \small This is the figure.}
  \end{center}
\end{figure}
```

Adjust the `scale` parameter. You can refer to the figure, which appears as Figure 1, by entering

`Figure \ref{fig1}`.

Make sure the caption does not get separated from the figure.

10. Tables. You may either create your table using one the L^AT_EX environments, or supply an .eps file of a table, created with any other tool, for insertion as a figure.

11. Acknowledgments. All acknowledgments should be placed immediately before the References section. You can be enter either `\acknowledgment{We thank...}` or `\acknowledgments{We thank... and also...}`. In the latter case the result will be

Acknowledgments. We thank... and also...

12. Bibliography. The references should appear in alphabetical order. If you have less than ten references, start the bibliography with

```
\begin{thebibliography} {9}
```

Otherwise, start it with

```
\begin{thebibliography} {99}
```

In any case, end it with

```
\end{thebibliogrphay}
```

The list of references at the end of this paper was created by the following input:

```
\bibitem{BM}
J.~A. Boyan and A.~W. Moore, \emph{Learning evaluation functions to improve
  optimization by local search}, Journal of Machine Learning Research
  \textbf{1} (2000), 77--112, \
  \url{http://www.ai.mit.edu/projects/jmlr//papers/volume1/boyan00a/boyan00a.pdf}.
```

`\bibitem{cohen}`

J.~W. Cohen, `\emph{The single server queue}`, North-Holland, Amsterdam, 1969.

`\bibitem{eaves}`

B.~C. Eaves, `\emph{The linear complementarity problem}`, *Management Sci.* `\textbf{17}` (1971), 613–634.

`\bibitem{GKT}`

D.~Gale, H.~W. Kuhn, and A.~W. Tucker, `\emph{Linear programming and the theory of games}`, *Activity Analysis of Production and Allocation* (T.~C. Koopmans, ed.), Wiley, New York, 1951, pp.~317–329.

`\bibitem{KK}`

N.~Karmarkar and R.~M. Karp, `\emph{The differencing method of set partitioning}`, Tech. Report UCB/CSD 82/113, Computer Science Division, University of California, Berkeley, CA, 1982.

In fact, this list was created automatically by BibTeX using the `amsplain` style. The `.bib` file is available on the web site as an example. When using BibTeX, instead of the `bibliography` environment simply use the commands

`\bibliographystyle{amsplain}`

`\bibliography{MOR}`

Standard abbreviations of names of mathematical journals can be found at http://www.ams.org/msnhtml/serials-list/annser_frames.html.

13. Appendices. Use the declaration

`\appendix`

to indicate the point where subsequent `\section{}`s should appear as appendices. At this point, by entering

`\section{Sample appendix.}`

the result is

Appendix A. Sample appendix. This section appears after the declaration `\appendix` and this is a subsection:

A.1 Subsection. This is a subsection of an appendix.

References

- [1] J. A. Boyan and A. W. Moore, *Learning evaluation functions to improve optimization by local search*, *Journal of Machine Learning Research* **1** (2000), 77–112, <http://www.ai.mit.edu/projects/jmlr//papers/volume1/boyan00a/boyan00a.pdf>.
- [2] J. W. Cohen, *The single server queue*, North-Holland, Amsterdam, 1969.
- [3] B. C. Eaves, *The linear complementarity problem*, *Management Sci.* **17** (1971), 613–634.
- [4] D. Gale, H. W. Kuhn, and A. W. Tucker, *Linear programming and the theory of games*, *Activity Analysis of Production and Allocation* (T. C. Koopmans, ed.), Wiley, New York, 1951, pp. 317–329.
- [5] N. Karmarkar and R. M. Karp, *The differencing method of set partitioning*, Tech. Report UCB/CSD 82/113, Computer Science Division, University of California, Berkeley, CA, 1982.