Regular Paper

Compilation for Version Polymorphic Object-Oriented Programming Language

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Abstract: Programming with versions (PWV) introduced versions into the language semantics allowing version-safe multi-version programming. BatakJava, an object-oriented implementation of this concept, takes a nonrestrictive approach to PWV that allows different versions of a class to interact together. To ensure version safety, BatakJava requires every type in a program to be fixed to a particular version after compilation. However, the nature of multi-version programming inevitably would require some types in a definition to be used with different combination of versions. To solve this problem, we propose the use of parameterized versions to allow version polymorphic definitions. This paper presents the design for a version polymorphic extension of BatakJava, an implementation that modifies BatakJava's type analysis and code generation, and a case study to demonstrate the better flexibility of programming with version polymorphism.

Keywords: object-orientation, versioning, software evolution

1. Introduction

The Information Processing Society of Japan (IPSJ) publishes Journal of Information Processing (JIP) as its flagship international journal. Thus far, the JIP adopted the landscape A4 format for publishing papers, but it has changed this format to the portrait A4 format because of many requests from authors. Corresponding to this format change, the JIP accepts the portrait A4 format for submitting papers.

Following with this change, we, the Editorial Board of the JIP, prepared a new style file for LaTeX. In this manuscript, we first describe the usage of the style file. The basic strategy of the new style file is to require no special knowledge of command usage that does not use standard LaTeXcommands. Authors of a paper can use standard LaTeXcommands to keep within the formatting restrictions of the paper, such as setting space pitches and margins. The guideline of the paper format will be described in Section 4. Since this manuscript itself also is written with the style file, we hope it will help with writing a paper.

The Editorial Board of the JIP has also prepared a "Dos and Don'ts" list of matters an author should consider while writing a paper. We have added the list to the latter portion of this manuscript. Please use the list as a checklist for preparing to submit a paper.

2. Flow from Submission to Publishing

2.1 Preparation

The JIP author's kit including the LaTeXstyle files can be downloaded from the following URL:

`http://www.ipsj.or.jp/journal/submit/style.html`

The kit includes the following files:

(1) `ipsj.cls`: style file for ipsj journals
(2) `ipsjpref.sty`: style for the foreword
(3) `jsample.tex`: source for the Japanese version of this guide
(4) `esample.tex`: source of this guide
(5) `ipsjsort-e.bst`: bibtex style (sorted)
(6) `ipsjunsrt-e.bst`: bibtex style (unsorted)
(7) `bibsample.bib`: sample of bibliographic data (Japanese)
(8) `ebibsample.bib`: sample of bibliographic data (English)
(9) `ipsjtech.sty`: style file for technical report
(10) `tech-jsample.tex`: source for the Japanese version of technical report
(11) `tech-esample.tex`: source for the English version of technical report

Since LaTeX 2ε is required as an execution environment, please install it.

Regarding manuscripts written with Microsoft Word, a corresponding company will convert them into LaTeX. This means that the Microsoft Word format is used just a reference.

2.2 Draft Submission

First, generate a PDF file from your LaTeXsource and style file under your LaTeX 2ε environment and check that the generated PDF file can be read with the Adobe PDF reader. After that, register your email address into the Paper Review Management System (PRMS) through the following URL:

`https://mc.manuscriptcentral.com/ipsj`

The system will return an email including another URL for submitting your paper. The manual for submission via the PRMS is available at the following URL:

`http://www.ipsj.or.jp/english/jip/submit/manual/`

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The real author is the Editorial Board of JIP.

```
e_manual.html
```
The JIP adopts *single blind review*, where you will not know reviewers' names.

2.3 Final Version

After you receive the notification of acceptance, revise your paper in accordance with the comments from the referees. The layout of figures and tables should be fixed. After that, *check your paper again and again to completely remove description errors*.

Send *both the LATEX file package and the hard copy* to the IPSJ. The standard contents of the file package are .tex and .bbl. If you include PostScript files and/or special style files, add them into the package. Note that *you must not split your source into multiple .tex files* because it is hard for printers to access multiple files when they modify your source. Also, carefully make sure that the package contains all necessary files, especially special style files.

Details on the file transfer, including its destination and packaging method, will be provided to you by the IPSJ secretariat.

2.4 Proofreading, Typesetting, and Publishing

The IPSJ may change terms in your paper as per its standard, and the printing house may modify your source to make it fit the standard printing style. Even if they make no changes, the result printed at the printing house may be different from what you printed because of differences in the LATEX execution environment. Therefore, the galley proofs of your paper will be sent to you so that you can check if those modifications and/or differences are acceptable. If not, correct errors with red ink. Note that *this proofreading is not for correcting your errors*, which should have been corrected before sending the final version.

Your paper will be typeset after errors you notify us about (if any) are corrected and will be published as part of the JIP.

3. Guide for Formatting a Paper

The JIP, as opposed to conference proceedings, has a traditional and *stiff* style. This makes the style files also *stiff* and strongly restricts customizability, which is one of the most useful features of LATEX. For example, you must not change *style parameters*, such as \texheight. It is not easy to show which customizations are allowed, but the rule "Don't tamper with it unless you are confident" should suffice.

Note that if you do something you should not, *you may not have error messages but simply unattractive results*.

The source file must use the following format. Underlined parts can be omitted from draft versions.

4. Configuration of Paper

The source file must use the following format. Underlined parts can be omitted from draft versions. Note that a few additional commands, shown in A.1 of the Appendix, are available for a paper included in the Transactions.

```
\documentclass[JIP]{ipsj}
```
Specify other option styles if necessary.
Specify auxiliary styles with \usepackage.

```
\setcounter{volume}{<volume>}
\setcounter{number}{<number>}
\setcounter{page}{<first-page>}
\received{<year>}{<month>}{<day>}
\accepted{<year>}{<month>}{<day>}
```
Define your own macros if necessary.

If you cannot use the txfonts package, please do not use the following command
```
\usepackage[varg]{txfonts}
\makeatletter
\input{ot1txtt.fd}
\makeatother
```

```
\begin{document}
```

```
\title{<title>}
```

```
\affiliate{<affiliation-label>}{<affiliation>}
```

Declare current affiliation with \paffilabel if necessary.
```
\paffiliate{<affiliation-label>}{<affiliation>}
```

```
\author{1st-author}{affiliation-label}[E-mail]
\author{2nd-author}{affiliation-label}
```

```
\begin{abstract}
<abstract>
\end{abstract}
```

```
\begin{keyword}
<keyword>
\end{keyword}
```

```
\maketitle
```

```
\section{heading-of-1st-section}
...............
<main text>
...............
```

Put acknowledgments here with the acknowledgment environment if any.
```
\begin{acknowledgment}
\end{acknowledgment}
```

```
\begin{thebibliography}{99}%9 or 99
\bibitem{1}
\bibitem{2}
\end{thebibliography}
```

Put appendices here following \appendix if any.
```
\appendix
\section{heading-of-1st-section}
```

```
\begin{biography}
\profile{<1st-author>}{<biography-of-1st-author>}
```

```
\profile{<2nd-author>}{<biography-of-2nd-author>}
\end{biography}
\end{document}
```

4.1 Option Style

The following six styles are available as optional arguments of the `\documentclass`. If the JIP option is not used, the program will use the standard Japanese paper style as the default.

(1) `JIP`[1]   For English documents

(2) `invited`   For invited papers

(3) `sigrecommended`   For recommended papers

(4) `technote`   For technical notes

(5) `preface`   For the preface of an issue

Any combination of these options can be used.

If you specify auxiliary style files with the `\usepackage`, you must include them in the file package when you send your final version to the IPSJ.

However, style files included in the LaTeX 2ε standard distribution (e.g., graphicx) may be omitted. Note that style files may be incompatible with the style of the Journal Transaction.

4.1.1 Optional style exclusively for technical reports

In addition to the options described above, an option intended exclusively for technical reports is available.

`techrep`   technical report

If `\documentclass[techrep,JIP]{ipsj}` is used, the technical-report style will be applied.

4.2 Title, Author Names, etc.

Describe the title of your paper, author names and affiliations, and abstract using the commands and environment shown in Section 4. Then, perform `\maketitle` to automatically put them at the appropriate position. In the draft version, the title and abstract are automatically printed onto separate pages, while author names and affiliations are not printed in order to make your paper anonymous.

4.2.1 Title

The title specified with `\title` is made centered. Even if the title is too long to fit onto one line, *an automatic line break is not performed*. If your title is long, insert \\ into the appropriate positions to break the lines. A multiple line title is first flushed left and then centered with respect to the widest line.

The title also appears in the header of odd numbered pages. If your title is too long, provide a shortened title for the header to `\title` as its optional argument as follows.

4.2.2 Author Name and Affiliation

When indicating the affiliation of each author with a label (first citation) and starting from the first author, by using `\affiliate`, numbered footnotes will be generated that show the affiliations. When several authors are affiliated with the same organization, the affiliation needs to be indicated only once. For the author's current affiliation, use `\paffiliate` and provide the label and affiliated organization as before. If the affiliated organization arguments are entered as current and a line break is inserted using \\, the author name will be automatically defined by `\author`.

Immediately after the author's name, enter the affiliation label and the author's e-mail address.

Where there are several authors, repeating `\author` will generate additional authors in sequence (two authors, three authors, and so forth).

To add current affiliations or multiple affiliations, delineate the affiliate label using commas to include additional data.

4.2.3 Abstract

The abstract of your paper should only be used in the `abstract` environment.

4.2.4 Keywords

The keywords of your paper should be included as the content for the `keyword` environment.

4.3 Main part

4.3.1 Sectioning

LaTeX standard commands such as `\section` and `\subsection` are available for sectioning. The section heading of `\section` occupies two lines, while others are put into one line.

4.3.2 Fixed Baselines

Each page of the JIP is formatted with the double-column style. The printing tradition of double-column requires that a line in the left column and its neighbor in the right column have the same baseline. To meet this requirement, the style files carefully control the progression of baselines when a vertical space is inserted for section titles and so on.

4.3.3 Font Size

You will see that various size fonts are used in the printed result of your paper. Since these fonts are automatically and carefully chosen by the style files, you are free from the headache of selecting proper fonts. In fact, it is strongly recommended not to use font-size-changing commands such as `\large` and `\small` in the main text because they are quite harmful to retaining fixed baselines.

4.3.4 Itemizing

There is no special format for itemization. You can use the standard `enumerate`, `itemize`, `description` environment.

4.3.5 Footnotes

The command `\footnote` produces footnotes with reference marks such as [2] and [3]. When there is more than one footnote within a single page, please note that it is necessary to run LaTeX twice to process them correctly. Moreover, it is sometimes preferable to separate a footnote and its mark into different columns. This can be achieved using the `\footnotemark` and `\footnotetext` commands. The footnote numbering produced by LaTeX is continuous throughout the paper; it does not restart on each new page.

4.3.6 Overfulls and Underfulls

The final result must be free from any overfulls. It is well known that almost all overfulls can be avoided with a little effort when writing sentences. For example, avoiding long in-text formulas and `\verb` is very effective. However, tricks using the `flushleft` environment, \\, or `\linebreak` are not recommended because they cause quite unattractive results.

---

[1]   English should be used for the English version of the Transactions.

[2]   An example of footnote 1.

[3]   An example of footnote 2.

```
\begin{figure}[tb]
  <figure-body>
\caption{<caption>}
\label{ ... }
\end{figure}\
```

Fig. 1 Single column figure with caption explicitly broken by \\

```
\begin{figure}[tb]
  <figure-body>
\caption{<caption>}
\label{ ... }
\end{figure}\
```

Fig. 3 Single column figure with caption explicitly broken by \\

```
\begin{minipage}[t]%
  {0.5\columnwidth}
\captionType{table}
\caption{ ... }
\ecaption{ ... }
\label{ ... }
\makebox[\textwidth][c]{%
\begin{tabular}[t]{lcr}
\hline\hline
left&center&right\\\hline
L1&C1&R1\\
L2&C2&R2\\\hline
\end{tabular}}
\end{minipage}
```

Fig. 2 Contents of table 1

Table 1 A table built by Fig. 2

left	center	right
L1	C1	R1
L2	C2	R2

Table 2 Sections and sub-sections in which list-like environments are used (example of table)

	enumerate	itemize	description
type-1	2	3	4.5
type-2	—	4.11	4.7
type-3	2	—	4.5
type-4	—	4.8	4.3

type-1 : enumerate, etc.   type-2 : enumerate*, etc.
type-3 : Enumerate, etc.   type-4 : ENUMERATE, etc.

For underfulls, you will conveniently get the following warning message,

  `* Underfull \hbox (badness 10000) detected`

by inserting \\ at the end of a paragraph. This message is also output when you use \\ just before a list-like environment, just before an \item, and at the end of the environment. Such underfulls cause unattractive empty lines and a flood of warnings that will hide important error messages.

4.4 Formulas
4.4.1 In-text Formulas

In-text formulas may be surrounded by any proper math-open/close pair, i.e. $ and $, \(and \), or \begin and \end for the `math` environment. Note that tall materials in in-text formulas, such as $\frac{a}{b}$ (`\frac{a}{b}`), are unattractive and will disarrange the baseline progression.

4.4.2 Displayed Formulas

Displayed formulas *must not be surrounded by the pair* $$. Instead, use the \[and \] pair or one of the environments `displaymath`, `equation`, or `eqnarray`. These commands/environments indent formulas (not centered) and keep fixed baselines as follows.

$$\Delta_l = \sum_{i=l+1}^{L} \delta_{pi}. \tag{1}$$

4.4.3 Eqnarray environment

For a sequence of two or more related formulas (equations), use the `eqnarray` environment to line them up at equal (or unequal) signs instead of \[\] or the `equation` environment.

4.4.4 Special Fonts

It is strongly recommended to use only standard LaTeX math fonts. Otherwise, you must report that you are using special fonts.

4.5 Figures

A figure fit to one column is specified by the form shown in **Fig. 1**. Note that you must not specify the `h` option.

The \caption of a figure should be given below the figure body together with a \label command. A long caption will be automatically broken into two or more lines and centered with respect to the widest line. You can assist, however, with the line breaking by adding \\ to obtain a more beautiful result, especially for two-line captions, as shown in Fig. 1.

If you want to rank two or more figures and/or tables in a `figure` (or `table`) environment in order to save space, enclose each figure/table and its \caption in a `minipage` environment as shown in **Fig. 2** and **Table 1**. Also, as in a `figure` environment, the caption for Table 1 is correctly typeset because the `minipage` for it has the \captionType{table} command to specify the type of caption. The command can of course be used with the `figure` argument to give a figure caption.

Figure 4 shows how to make a double column figure.

You may use any size font, as shown in Fig. 4. Also, you may include an encapsulated PostScript file (so called EPS file) as the body of a figure. To include, use

  `\usepackage{graphicx}`

in the preamble and put the \includegraphics command where you wish to embed the EPS graphics with its file name (and options if necessary).

You might have noticed that the first reference to Fig. 1 is bold-faced, while the second and third are typed in roman fonts. This font switching is a rule of the Journal/Transactions and will be automatically performed if you use \figref{<label>} instead of Fig.˜\ref{<label>}. Another rule is that "Figure" must be used instead of "Fig." if the reference is the first word of a sentence, such as was the first reference to Fig. 4 above. Unfortunately, this switching is too hard to do automatically, so you must use \figref{<label>} in such cases.

4.6 Tables

A table with many rules is not very beautiful. **Table 2** shows an example of a table with standard style rules. Note that the uppermost rule is doubled, and no rules are drawn on the left and right edges. The caption should be put above the table. The default font size for tables is \footnotesize. Any reference to a table should be made using \tabref{<label>}.

```
\begin{figure*}[t]
  <figure-body>
\caption{<caption>}
\label{...}
\end{figure*}
```

Fig. 4   Double column figure

4.7   Citations, Reference, Acknowledgements

4.7.1   Citations

The command `\cite` is used to add citations in the text. Cited labels are sorted automatically and separated by using square brackets [ ]. Thus,

```
The paper \cite{companion,latex} is
an overview of \LaTeX.
```

will produce

The paper [1], [2] is an overview of LaTeX.

4.7.2   List of References

References should be arranged in alphabetical or cited order. It is recommended to use BiBTeX and style files `ipsjsort-e.bst` (alphabetical order) or `ipsjunsort-e.bst` (cited order) to make references fit to the traditional style. Remember that you must include `.bbl` file in the file package, instead of `.bib`. If you cannot use BiBTeX and have to make references manually using the bibliography environment, observe the references of this guide carefully and follow its style.

4.7.3   Acknowledgments and Appendices

If you want to acknowledge people, put your acknowledgments just before the references and enclose them in the `acknowledgment` environment.

Appendices, if there are any, should be put just after the references and `\appendix` command. Sectioning commands produces headings like **A.1**, **A.2**, and so on in the appendices.

4.8   Biography

Biographies of authors are positioned at the end of the document, just before `\end{document}`, as follows.

```
\begin{biography}
\profile{<1st-author's-name>}
  {<biography-of-1st-author>}
\author{<2nd-author's-name>}
  {<biography-of-2nd-author>}
.........
\end{biography}
```

Generally, photographs used in author biographies should be identification photographs.

The printers will crop these photographs to a size of 30 mm by 25 mm. Avoid using photographs that contain missing portions of the face or photographs in which the outline of the face is difficult to distinguish against the background. It is recommended to use photographs that have no background or that have light-colored backgrounds. When digitally submitting photographs for the author biography, the photograph must have a resolution of at least 300 dpi and must have been captured using a camera with at least one megapixel resolution. Since photographs for the author bi-

ographies will be incorporated into digital data by the printers at the time the composition is prepared, it is not necessary to digitally insert the photographs into the draft.

5. Check List of "Dos and Don'ts"

5.1 The basics of writing

☐ Describe a paper so that readers understand the novelty, availability, and reliability of the research.

☐ Try to make a paper easy to read (discontinuity in the story and obscure backgrounds or themes are a burden to readers).

☐ Revisit the paper if the problem to be solved is not generalized (entirely focused on a problem at XX University, etc.) or if the paper reports deliverables only and does not describe the problem itself.

☐ Rethink the paper if its conclusion is not clearly described, it does not adequately point out its applicability, limits, and controversial points, or its conclusion does not follow the contents.

☐ Expressions that are inappropriate for scientific papers and that are hard to understand should be reconsidered.

☐ Second thought is necessary if sentences are in colloquial style.

☐ Check the structure of chapters and sections and the organization of the paper.

☐ Do not make the paper so that grasping the meaning is difficult without guessing from the context.

☐ Confirm if the explanation of the hypotheses is enough and does not contain any gaps in meaning.

☐ The authors should not submit a manuscript that includes redundant and/or too brief descriptions.

☐ The authors should eliminate undefined terminologies.

5.2 Show novelty and usefulness clearly

☐ The authors should not submit a manuscript that does not clarify the motivation and the goal of their study and the relationship to other existing studies.

☐ The authors should not submit a manuscript that does not clarify what technologies are well/publicly known and what idea they are newly/originally proposing.

☐ The authors should provide sufficient references in their manuscript to back up the originality of their study.

☐ The authors should not submit a manuscript in which the readers cannot understand their proposal (or cannot find any originality in it) because it consists entirely of abstractive and/or conceptual descriptions.

☐ The authors should not submit a manuscript that lacks discussions on the effectiveness of their proposal.

5.3 Concrete attention to writing

☐ The authors should not submit a manuscript whose Japanese title does not match its content correctly.

☐ The authors should not submit a manuscript whose English title does not match its content correctly or that contains incorrect English usage.

☐ The paper should be revised when its abstract does not show its purpose or is written in inadequate English.

☐ The paper should be revised when symbols and abbreviations are not popular, wordings are not adequate, or the explanations of its pictures and tables are not adequate.

☐ The paper should be revised when special wordings, which are popular only in an individual or local group or a small company, are used without any explanations.

☐ The paper should be revised when its pictures or tables are not semantically clear or they contain mistakes.

☐ The paper should be revised when its pictures or tables are not visually clear.

☐ The paper should be revised when the size or the scale of its pictures or tables are not adequate.

5.4 Regarding references

☐ The number of references should be more than 10 (Some opinions say more than 20 or 30 in some research areas.

☐ A sufficient number of references are required to show the paper's novelty.

☐ The paper should be revised when it has an insufficient number of references.

☐ Referring to appropriate papers written by Japanese authors contributes to the further progression of the Japanese research community.

☐ Do not include self-citations excessively.

5.5 Double submission

☐ Double submission of the original paper is prohibited. However, it is permissible to submit a paper accepted at an international conference and free from copyright issues.

☐ Do not use the same figures or charts already included in other original papers, except those that have proper citations.

☐ Be careful not to have overlap between the paper and other published articles.

5.6 Check by other researchers

☐ Proofreading by experienced persons with many accepted papers is strongly recommended.

☐ Take care to avoid leaps of logic from the viewpoint of the readers.

5.7 Miscellaneous

☐ After the first review round, do not modify the paper except for the stated conditions for acceptance without the reviewers' approval.

☐ The authors cannot select reviewers.

☐ Fill the self-check sheet carefully before submitting the paper.

6. Concluding Remarks

We dare not dream that the style files are perfect but rather wish to improve them with your cooperation and hope that you will let us know of any complaints, comments, suggestions by e-mail to:
editt@ipsj.or.jp.

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Appendix

A.1 How to Write an Appendix

To add an appendix, write the command `\appendix` immediately following the reference list. Within the appendix, the `\section` command creates numbered headings such as A.1 and A.2.

A.1.1 Example of a Heading

The command `\subsection` in the appendix gives this kind of heading.

A.2 Commands for Transactions

Each transaction has its own subtitle, abbreviation code, and serial number. This information is given by using the following commands for the `\documentclass` option in the final version.

- PRO (Trans. Programming)
- TOM (Trans. Mathematical Modeling and Its Applications)
- TOD (Trans. Database)
- ACS (Trans. Advanced Computing Systems)
- CDS (Trans. Consumer Device & System)
- DCON (Trans. Digital Content)
- TCE (Trans. Computer and Education)
- TBIO (Bioinformatics)
- SLDM (System LSI Design Methodology)
- CVA (Computer Vision and Applications)

Moreover, for papers in English, the command `english` can be added. For example, writing `\documentclass[PRO, english]{ipsj}` will create an English document.

Note that the research group has a "month of publication" number that does not correspond to the "issue month number" of the transaction. You may be notified by the IPSJ or the Editorial Board of the `<month>` in order to set the month of publication counter as follows.

`\setcounter{month}{month of publication}`

In addition, commands are provided for executing unique functions for several transactions, as shown in the following sections.

A.3 Unique Commands for Each Part

Since each of the parts has its own detailed specifications, the same command may produce different results in two different parts.

In some cases, the `<Revised date>` and `<Second revised date>` are inputted. These can be added as a preamble by using

`\rereceived{<year>}{<month>}{<day>}`
`\rerereceived {<year>}{<month>}{<day>}`

A.3.1 Unique Functions for Programming (PRO)

Issues of Transactions on Programming (PRO) includes not only regular papers but also abstracts from research presentations delivered in the research groups of SIGPRO. The file for an abstract consists of material from the `\documentclass` to the of the format shown in Section 4. That is, the file does not have a main text. Note that the reception and acceptance dates are not required, but the date of presentation has to be given:

```
\Presented{<year>}{<month>}{<day>}
```

A.3.2   Unique Functions for Database (TOD)

The name of the editor in charge for the paper included in The Transactions on Database (TOD) is specified by

```
\edInCharge{<name-of-editor>}
```

Also, following a change in style, the command is entered at the end of the paper, directly before `\end{document}`.

A.3.3   Unique Functions for Consumer Devices & Systems (CDS)

In the "Transactions on Consumer Devices & Systems," since the headings differ depending on the type of document, the type of heading is to be changed with the option.

The types are:
- `systems`   Paper on Consumer Systems
- `services`   Paper on Consumer Services
- `devices`   Paper on Consumer Devices
- `Research`   Research Paper

For English papers, you simply need to add `english`.

A.3.4   Unique Functions for Digital Content (DCON)

In the "Transactions on Digital Content," since the headings differ depending on the type of document, the type of heading is to be changed with the option.

The types are:
- `Research`   Research Paper
- `Practice`   Practice Paper
- `Content`   Content Paper

For English papers, you simply need to add `english`.

A.3.5   Unique Functions for Computer and Education (TCE)

In the "Transactions on Computer and Education," since the headings differ depending on the type of document, the type of heading is to be changed with the option.

The types are:
- `No specification`   Regular Paper (Default)
- `Short`   Short Paper

For English papers, you simply need to add `english`.

A.3.6   Unique Functions for Bioinformatics (TBIO)

Since papers in Transactions on Bioinformatics (TBIO) are in English, specifying the TBIO option will cause the program to assume that the English option has been specified. This effectively means that the English option can be omitted.

The following three categories define the different types of papers.
- `No specification`   Original Paper (Default)
- `Data`   Database/Software Paper
- `Survey`   Survey Paper

Therefore, `\documentclass[TBIO]{ipsj}` will be an original paper, and `\documentclass[TBIO,Survey]{ipsj}` will be a survey paper.

Moreover, as with TOD, the name of the editor in charge of the paper is specified by using `\Editor`, but in this case, the text

is introduced with "Communicated by." Therefore, the name of the editor is positioned directly before `\end{document}`, as with TOD.

A.3.7   Unique Functions for Computer Vision and Applications (CVA)

The Transactions of Computer Vision and Applications is also an English language journal, allowing the English option to be omitted.

There are three classes of documents:
- `No specification`   Regular Paper (Default)
- `Research`   Research Paper
- `system`   Systems Paper
- `Express`   Express Paper

As with TBIO, the name of the editor in charge is inserted, and the inserted text is introduced with "Communicated by."

### A.3.8   Unique Functions for System LSI Design Methodology (SLDM)

The Transactions of System LSI Design and Methodology (SLDM) is also an English language journal, allowing the English option to be omitted.

There are two classes of documents:
- `No specification`   Regular Paper (Default)
- `Short`   Short Paper

SDLM also enters the name of the editor in charge, but automatic insertion is treated differently depending on the paper.

Normally, text is inserted using "Recommended by Associate Editor:," but it is only when the "invited" option is included that the insertion text becomes "Invited by Editor-in-Chief:."
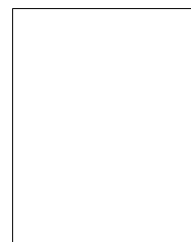
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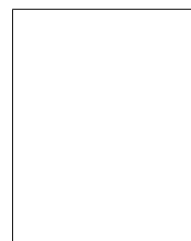
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