

The business meeting will include elections for the offices of Vice President and Secretary, who will be elected to two-year terms (the terms of the President and Treasurer extend until the 1985 meeting). Nominations for these offices may be made by petition containing the signatures of the nominee and of two other members in good standing; petitions should be sent to the Nominating Committee, T_EX Users Group, c/o American Mathematical Society, P.O. Box 6248, Providence, RI 02940, to be received no later than July 16.

The remainder of the technical program will include both new and updated presentations on:

- Introduction to T_EX and TUG for new users
- T_EX82 and Metafont news
- T_EX82 and WEB user experiences
- Questions and answers on T_EX82
- Site Coordinators' reports
- Birds-of-a-Feather sessions
- Macro Wizards' roundtable
- Output device manufacturers' representatives
- Output devices and drivers

Suggestions for additional topics to be covered at the meeting should be communicated to Joey Tuttle, (415) 327-1700, or to Ray Goucher, (401) 272-9500, ext. 232.

T_EX for Beginners, August 20–24, 1984

Tentative course outline:

Preliminaries

The process from text to typeset copy; Short introduction to the text editor; Short introduction to system commands.

Introduction to T_EX

Overview (review) of process of T_EX; Character set; A sample document from start to finish; Interpreting and correcting errors; Fonts; State changing macros vs. macros with parameters; Ligatures.

Copyediting

Proofreading marks; Typesetting language and concepts.

Sample application: a letter

Using macros; Simple adaptations to existing macros.

Sample application: a report

Designing a document; T_EX code for your design; Writing macros to make it easier.

Macros

Concepts and fundamentals; Examples and applications.

T_EX fundamentals

Dimensions; Boxes and glue; Interpreting and correcting errors; Modes.

Mathematics

In-line math formulas; Introduction to displayed formulas; Interpreting and correcting errors;

Sample application: a math paper

In-line vs. displayed formulas; Shilling vs. built-up fractions; Examples.

Breaking paragraphs into lines

Hyphenation; Penalties; Interpreting and correcting errors.

Breaking lines into pages

Penalties; Insertions and "floating" insertions; Interpreting and correcting errors.

Interpreting and correcting errors

Overview and review.

This course is an intensive introduction to T_EX, suitable for those without any exposure to T_EX and with no prior knowledge of typesetting. All participants will be expected to know how to use at least one computerized text editor (or word processor). This course should be particularly useful for evaluating the capabilities of T_EX, either for organizations investigating T_EX or for T_EX coordinators at sites where T_EX has been newly installed.

The intended format is four hours of lectures during each of the five days, with the remainder of each day occupied by hands-on experience using T_EX.

In order to provide adequate computer access, enrollment will be limited to 60 participants.

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Software

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HYPHENATION OF ITALIAN WORDS

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This short note deals with the implementation of a procedure to hyphenate Italian words and the integration of such a procedure into the T_EX system.

Since the installation of T_EX we have been working to tailor the system to user needs in order to improve its circulation in the Scientific Community and Publishing Industry. With this aim, we have faced the problem of designing a suitable algorithm to find hyphenation points according to the rules of the Italian language. The procedure is completely general even if its first application has been inside the T_EX system.

The algorithm was influenced by the principles pointed out by Prof. D. Knuth in the description of the original procedure for the English language.

So, our main concern was to provide a fast and short routine capable of identifying the great majority of hyphenation points even if it does not

cover completely all the complex variety of instances for the Italian language. If the routine cannot resolve an ambiguity, the possible break point is bypassed so that it is certain that all the marked points provide a correct hyphenation.

The previous requirement led us to avoid any dictionary look-up to search, given the word, the corresponding break points, not even for exceptional cases. Consequently, a systematic study has been begun in order to identify all hyphenation rules effective for the Italian language. This approach has showed that the attempt to include specific irregular cases in a general set of rules would enlarge excessively the number of rules and the complexity of the algorithm. So, the patterns responsible for non-standard breaks have been identified and grouped in classes. The effect is to minimize the number of entries since every pattern is applicable to all the words belonging to the same irregular class.

In order to reach the hyphenation points, first the algorithm tries to acknowledge a syllable applying one of the standard grammar rules and, then, it tries to match one of the predefined irregular patterns. The procedure processes the word and marks the first break point, hence it recurses without keeping memory of the last break that has no influence on the rest of the word. So the word is scanned sequentially without any backtracking.

To activate the link to our procedure into the \TeX system, it was necessary to modify the original HYPHENATE and JUSTIFICATION procedures. Obviously, in the HYPHENATE procedure the code section devoted to searching break points for English words has been removed and our code substituted. The interfaces have not been modified so that the storing of the current word does not change and the hyphenation points are marked in the same way. In the JUSTIFICATION procedure, the pointers to word chars have been modified in order to analyze the entire word (HYPHENATIONWORD) including prefix and suffix. Just like in the original HYPHENATE procedure the only words that are analyzed consist of alphabetical strings without blanks or special punctuation symbols.

The algorithm has been running inside \TeX on an IBM 3083 under the MVS Operating System since November 83 and it works very well. In order to verify its functionality under a stressing condition various tests have been submitted with constraints of small values for the HSIZE parameter.

As a second step of this activity our aim is to implement the capability to select dynamically the appropriate hyphenation procedure. It would be preferable for the end user to have a switch com-

mand that drives \TeX to analyze the words in the text with either English or Italian rules.

Acknowledgements are due to A. Pilenga of the Cybernetics Institute for her support in integrating the procedure into \TeX and to B. Zonta of the National Research Council for her kind suggestions in classifying the hyphenation rules for the Italian language.

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HYPHENATION EXCEPTION LOG

Editor's note: This is the list requested by Don Knuth in his "Note on Hyphenation", TUGboat Volume 4, No. 2, page 64. It contains the words that have come to the Editor's attention, either through \TeX hax or by other means. As expected, there are more instances of missed than of incorrect hyphens. The " \TeX " column gives the result from the `\showhyphens{...}` facility of plain \TeX ; the second column contains versions which are suitable for insertion in a `\hyphenation{...}` list. Only the singular is shown for nouns; the plural should also be specified in a `\hyphenation{...}` list if it appears in your document.

| \TeX | |
|-------------------|-------------------|
| ap-pendix | ap-pen-dix |
| cartwheel | cart-wheel |
| database | data-base |
| Di-jk-stra | Dijk-stra |
| in-fras-truc-ture | in-fra-struc-ture |
| manuscript | man-u-script |
| mi-cro-fiche | mi-cro-fiche |
| paramil-i-tary | para-mil-i-tary |
| postam-ble | post-am-ble |
| pream-ble | pre-am-ble |
| sub-scriber | sub-scrib-er |
| waveg-uide | wave-guide |