
NAME

thru — expand abbreviated format representation to through-composed format

SYNOPSIS

thru [-v *version*] [*inputfile* ...]

DESCRIPTION

The **thru** command expands *abbreviated format* Humdrum representations to *through-composed formats* in which input passages are rearranged and output according to some specified *expansion list*.

Musical scores frequently contain notational devices such as repeat signs and Da Capos which permit more succinct renderings of a given document. Humdrum *section labels* and *expansion-lists* provide parallel mechanisms for encoding *abbreviated format* files. The **thru** command is normally used to expand various repetition devices. However, depending on the input, one of several expansions (dubbed *versions*) may be possible. Hence, **thru** is also useful for selecting a particular edition, performance, or interpretation from a composite input.

The input to **thru** must contain one or more sections identified by section labels. A *section* is a set of contiguous records. A *section label* is a tandem interpretation that consists of a single asterisk, followed by a greater-than sign, followed by a keyword that labels the section, e.g.

```
*>Exposition
*>Trio
*>Refrain
*>2nd ending
*>Coda
```

The section label *keywords* may contain any sequence of the following ASCII characters: the upper- or lower-case letters A–Z, the numbers 0 to 9, the underscore (_), dash (–), period (.), plus sign (+), octothorpe (#), tilde (~), at-sign (@), or space. All other characters are forbidden. A section label interpretation may occur anywhere in a Humdrum input, however, if more than one spine is present in a passage, identical section labels must appear concurrently in all spines.

Sections begin with a section label and end when either another section label is encountered, all spines are assigned new exclusive interpretations, or all spines terminate. If there is more than one spine present in a passage, identical section labels must appear concurrently in all spines.

An *expansion-list* is a tandem interpretation that takes the form of a single asterisk followed by a greater-than sign, followed by an optional label, followed by a list of section-labels enclosed in square brackets and separated by commas. Examples are given below. The first and second expansion-lists identify two section-labels in their lists. The last three expansion-lists have been labelled ‘long,’ ‘1955’ and ‘Czerny_edition’ respectively.

```
*>[section1,2nd ending]
*>long[Exposition,Exposition]
*>1955[Aria]
*>Czerny_edition[refrain]
```

The **thru** command outputs each section in the order specified in the expansion list. If more than one expansion list is present in a file, then the desired *version* is indicated on the command line via the **-v** option. (See EXAMPLES.)

OPTIONS

The **thru** command provides the following options:

-h displays a help screen summarizing the command syntax
-v version expand the encoding according to expansion-list label *version*

Options are specified in the command line.

EXAMPLES

The following examples illustrate the operation of the **thru** command. Consider the following simple file:

```
**example        **example
*>[A,B,A,C]    *>[A,B,A,C]
*>A            *>A
data-A          data-A
*>B            *>B
data-B          data-B
*>C            *>C
data-C          data-C
*_              *_
```

This example contains just three data records — each of which has been labelled with its own section label. The file contains a single unlabelled expansion list which indicates that ‘A’ section should be repeated between the ‘B’ and ‘C’ sections. The following command:

```
thru inputfile
```

would produce the following “through-composed” output:

**example	**example	
*thru	*thru	--
*>A	*>A	
data-A	data-A	
*>B	*>B	
data-B	data-B	
*>A	*>A	
data-A	data-A	
*>C	*>C	
data-C	data-C	
*-	*-	

Notice that the expansion-list record has been eliminated from the output. A `*thru` **tandem** interpretation is added to all output spines immediately following each instance of an exclusive interpretation in the input. If `*thru` tandem interpretations are already present in the input, they are discarded (thus, running a file through **thru** twice will not change the file in any way). Also notice that there are now two sections in the output sharing the same label (`*>A`). This duplication of section-labels is not permitted in abbreviated-format encodings.

Consider the following more complex example. Imagine a *Da Capo* work in which a conventional performance proceeds as follows: a first section ('A') is performed twice, followed by first and second endings — labelled 'B' and 'C' respectively. A subsequent section ensues ('D'), followed by a return to the first section ('A'). This first section is played just once, immediately followed by a final coda section ('E').

Imagine also a hypothetical performance of this work in which Murray Perahia makes three changes: Perahia repeats the 'D' section, he repeats the 'A' section when returning to the *Da Capo* — re-using the first ending before continuing to the coda following the repetition. Finally, Perahia has improvised an introduction to the work. Both the conventional interpretation and the hypothetical Perahia interpretation can be represented in the same encoded file as follows.


```

**example
*>Perahia [X,A,B,A,C,D,D,A,B,A,E]
*>Conventional [A,B,A,C,D,A,E]
*>X
data-X
*>A
data-A
*>B
!! 1st ending
data-B
*>C
!! 2nd ending
data-C
*>D
data-D
*>E
!! Coda
data-E
*—

```

The hypothetical Perahia version can be recreated by invoking the command:

```
thru -v Perahia inputfile
```

Alternatively, the “conventional” interpretation of the Da Capo structure could be produced by the command:

```
thru -v Conventional inputfile
```

In each case, the **thru** command will expand the input file according to the designated label for the expansion-lists. Note that there is no limit to the number of expansion-lists that may appear in a Humdrum file.

PORTABILITY

DOS 2.0 and up, with the MKS Toolkit. OS/2 with the MKS Toolkit. UNIX systems supporting the *Korn* shell or *Bourne* shell command interpreters, and revised *awk* (1985).

SEE ALSO

strophe (4), **yank** (4)

WARNINGS

Humdrum output is not guaranteed with the **thru** command. In order to assure Humdrum output, it is necessary to have the same number of active spines at each point where sections are joined together in the expanded output. In addition, the exclusive interpretations must match where sections are joined.

Note that if an expansion list appears after some initial data records, then **thru** causes the initial material to be output before expanding the document according to the expansion list.

No two expansion lists can be identified using the same version label.

If two sections contain the same section label in the abbreviated document, then subsequent sections having the same label are ignored when expanded by **thru**.

Inputs that contain different section labels or expansion-lists in concurrent spines are illegal and will produce an error.