NAME

deg — translate pitch-related representations to relative scale degree (**deg)

SYNOPSIS

deg [**-tx**] [*inputfile ...*] [> *outputfile.deg*]

DESCRIPTION

The **deg** command transforms various pitch-related inputs to the corresponding scale degree. The command outputs one or more Humdrum **deg spines — where scale degrees are indicated by the numbers 1 (tonic) to 7 (leading tone). Scale degree information can be determined only with reference to some prevailing key. For example, the pitch C4 is the tonic (1) in the key of C major, but the submediant (6) in the key of E minor. The **deg** command expects a tandem interpretation indicating the key of the input passage; **deg** will adapt to specified changes of key within an input. If no key information is provided prior to the first pitch-related data, **deg** issues an error message and terminates.

The **deg** command differs from the (related) **degree** command in that it outputs *relative* (rather than *absolute)* pitch-height information. Upward pitch motions are indicated by the caret (^), whereas downward pitch motions are indicated by the lower-case letter 'v'. Hence, the token '1' followed by '^5' means that the ensuing dominant pitch is above rather than below the preceding tonic pitch. No absolute pitch-height information is represented. As in the case of **degree,** plus and minus signs indicate whether a pitch has been chromatically raised or lowered. For example, the pitch A-flat is designated '6-' in the key of C major, but '6' in the key of C minor. The harmonic minor scale is assumed for all minor keys. Thus, B-flat is considered a "lowered" seventh degree in C minor, whereas B natural is considered the "normal" (rather than "raised") seventh degree. For some applications, this interpretation of the minor-scale seventh degree may cause difficulties.

The **deg** command is able to translate any of the pitch-related representations listed below. For descriptions of the various input representations (including **deg) refer to Section 2 *(Representation Reference)* of this reference manual.

It is recommended that output files produced using the **deg** command should be given names with the distinguishing '.deg' extension.

**kern	core pitch/duration representation
**pitch	American National Standards Institute pitch notation (e.g. "A#4")
**solfg	French solfège system (fixed 'doh')
**Tonh	German pitch system

Input representations processed by **deg.**

OPTIONS

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

-h displays a help screen summarizing the command syntax
-t suppresses printing of all but the first note of a group of tied `**kern` notes
-x suppresses printing of non-`**deg` signifiers

Options are specified in the command line.

The **-t** option ensures that only a single output value is given for tied `**kern` notes; the output coincides with the first note of the tie.

In the default operation, **deg** outputs non-pitch-related signifiers in addition to the degree value. For example, in the key of D major, the `**pitch` token "G5zzz" will result in the output "4zzz" — that is, after translating G5 to 4, the "zzz" signifiers are retained in the output. For some applications, echoing non-pitch-related signifiers in the output is useful. However, in other situations, the result can prove confusing — especially, when the non-pitch-related signifiers are numbers. Consider the case of the `**kern` token "4f#" in the key of D minor; after translating '`f#`' to '`3+`' (i.e. raised third degree), the preceding non-pitch-related signifier '`4`' will also be output, hence the value `43+` — which may cause confusion.

The **-x** option is useful for eliminating non-pitch-related signifiers from the output. For most `**kern` inputs, the **-x** option is recommended.

EXAMPLES

The following example illustrates the use of **deg.** The input contains four pitch-related spines — one of which (`**MIDI`) cannot be processed by **deg.** In addition, there is one non-pitch-related spines (`**embell`).

```
!! 'deg' example.
**kern    **Tonh    **MIDI      **selfg    **pitch    **embell
*M2/4     *M2/4     *M2/4       *M2/4      *M2/4      *M2/4
*C:       *d:       *G#:        *a:        *F:        *F:
=1        =1        =1          =1         =1         =1
8ee-      Gis2      /60/        do3        F4foo      ct
.         .         /-60/       .          .          .
8f        H2        /62/        fa3        r          upt
.         .         /-62/       .          .          .
8dd-      B2        /70/        mi3        E4         ct
.         .         /-70/       .          .          .
8d--      Cis4      /61/        r          F4         sus
.         .         /-61/       .          .          .
=2        =2        =2          =2         =2         =2
[4a-      r         .           mi~b3      F4 A4      .
.         Heses2    .           re3        G4 Bb4     ct
4a-]      C3        /48/ /52/   do3        E4 C5      ct
.         .         /-48/       .          .          .
.         H2 E3     /-52/       la3        G4         ct
=3        =3        =3          =3         =3         =3
r         A2 F3     .           r          F4         .
===       ===       ===         ===        ===        ===
*-        *-        *-          *-         *-         *-
```

Executing the command:

```
deg -tx input > output.deg
```

produces the following result:

```
!! 'deg' example.
**deg   **deg   **MIDI      **deg   **deg   **embell
*M2/4   *M2/4   *M2/4       *M2/4   *M2/4   *M2/4
*C:     *d:     *G#:        *a:     *F:     *F:
=1      =1      =1          =1      =1      =1
3-      4+      /60/        3       1       ct
.       .       /-60/       .       .       .
v4      ^6+     /62/        ^6      r       upt
.       .       /-62/       .       .       .
^2-     v6      /70/        v5      v7      ct
.       .       /-70/       .       .       .
v2-     ^7      /61/        r       ^1      sus
.       .       /-61/       .       .       .
=2      =2      =2          =2      =2      =2
^6-     r       .           v5-     1 ^3    .
.       v6-     .           v4      v2 ^4   ct
.       ^7-     /48/ /52/   v3      v7 ^5   ct
.       .       /-48/       .       .       .
.       v6+ ^2  /-52/       ^1      v2      ct
=3      =3      =3          =3      =3      =3
r       v5 ^3   .           r       v1      .
===     ===     ===         ===     ===     ===
*-      *-      *-          *-      *-      *-
```

Both processed and unprocessed spines are output. Notice that the tied note at the beginning of measure 2 in the `**kern` spine has been rendered as a single note rather than as two notes (due to the **-t** option). Also notice that the non-pitch-related signifiers (e.g. foo) in the first notes of the `**pitch` spine have been stripped away (due to the **-x** option). Note that the plus and minus signs merely indicate that a scale degree has been raised or lowered, but not by how much. Hence both the D-flat and D double-flat in measure 1 of the first (`**kern`) spine are rendered as '`2-`'.

FILES

The file `x_option.awk` is used by this program when the **-x** option is invoked.

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

****deg** (2), ****degree** (2), **degree** (4), ****kern** (2), **kern** (4), ****pitch** (2), **pitch** (4), ****solfg** (2), **solfg** (4), ****Tonh** (2), **tonh** (4)