NAME

degree — translate pitch-related representations to absolute scale degree (`**degree`)

SYNOPSIS

degree [**-tx**] [*inputfile ...*] [> *outputfile.dgr*]

DESCRIPTION

The **degree** command transforms various pitch-related inputs to the corresponding scale degree. The command outputs one or more Humdrum `**degree` 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 **degree** command expects a tandem interpretation indicating the key of the input passage; **degree** will adapt to specified changes of key within an input. If no key information is provided prior to the first pitch-related data, **degree** issues an error message and terminates.

The **degree** command differs from the (related) **deg** command in that it outputs *absolute* (rather than *relative)* pitch-height information. Along with the scale degree, the octave number is represented — the two values being separated by a slash (/). Hence the token '1/4' means the first scale degree (tonic) in octave '4'. As in the case of **deg,** 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 **degree** command is able to translate any of the pitch-related representations listed below. For descriptions of the various input representations (including `**degree`) refer to Section 2 *(Representation Reference)* of this reference manual.

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

OPTIONS

The **degree** 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-`**degree` 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, **degree** 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 "4/5zzz" — that is, after translating G5 to 4/5, 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+/4`' (i.e. raised third degree in octave 4), the preceding non-pitch-related signifier '`4`' will also be output, hence the value `43+/4` — 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 **degree.** The input contains four pitch-related spines — one of which (`**MIDI`) cannot be processed by **degree.** In addition, there is one non-pitch-related spines (`**embell`).

```
!! 'degree' example.
**kern    **Tonh    **MIDI      **sölfg    **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:

```
degree -tx input > output.dgr
```

produces the following result:

```
!! 'degree' example.
**degree    **degree    **MIDI      **degree    **degree    **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-/5        4+/2        /60/        3/3         1/4         ct
.           .           /-60/       .           .           .
4/4         6+/2        /62/        6/3         r           upt
.           .           /-62/       .           .           .
2-/5        6/2         /70/        5/3         7/4         ct
.           .           /-70/       .           .           .
2-/4        7/4         /61/        r           1/4         sus
.           .           /-61/       .           .           .
=2          =2          =2          =2          =2          =2
6-/4        r           .           5-/3        1/4 3/4     .
.           6-/2        .           4/3         2/4 4/4     ct
.           7-/3        /48/ /52/   3/3         7/4 5/5     ct
.           .           /-48/       .           .           .
.           6+/2 2/3    /-52/       1/3         2/4         ct
=3          =3          =3          =3          =3          =3
r           5/2 3/3     .           r           1/4         .
===         ===         ===         ===         ===         ===
*-          *-          *-          *-          *-          *-
```

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