NAME

pitch — translate pitch-related representations to American standard pitch notation

SYNOPSIS

pitch [**-tx**] [*inputfile* ...] [> *outputfile.pit*]

DESCRIPTION

The **pitch** command transforms various pitch-related inputs to the corresponding pitch designations approved by the American National Standards Institute (ANSI). The **pitch** command outputs one or more Humdrum `**pitch` spines. ANSI pitch designations use the upper-case letters A to G followed by an optional accidental, followed by an octave number. In the Humdrum `**pitch` representation, optional cents deviation from equal temperament can also be encoded.

The **pitch** command is able to translate any of the pitch-related input representations listed below. In each case, a tuning standard of A4 equals 440 hertz is assumed. For descriptions of the various input representations (including `**pitch`) refer to Section 2 *(Representation Reference)* of this reference manual.

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

`**cents`	hundredths of a semitone with respect to middle C=0
`**degree`	key-related scale degree
`**freq`	fundamental frequency (in hertz)
`**fret`	fretted-instrument pitch tablature
`**kern`	core pitch/duration representation
`**MIDI`	Music Instrument Digital Interface tablature
`**semits`	equal-tempered semitones with respect to middle C=0 (e.g. 12 = C5)
`**solfg`	French solfège system (fixed 'doh')
`**specC`	spectral centroid (in hertz)
`**Tonh`	German pitch system

Input representations processed by **pitch**.

OPTIONS

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

-h displays a help screen summarizing the command syntax
-t suppresses printing of all but the first of a group of tied `**kern` notes
-x suppresses printing of non-pitch-related 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, **pitch** outputs non-pitch-related signifiers in addition to the `**pitch` pitch value. For example, the `**Tonh` token "Ges5zzz" will result in the output "Gb5zzz" — that is, after translating Ges5 to Gb5, 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 "8aa#"; after translating 'aa#' to A#5, the non-pitch-related signifier '8' will also be output, hence the value 8A#5 — which may cause confusion; commands such as **tonh, solfg,** and **pitch** treat the first number encountered in an input token as the octave designation. Hence further processing of this token may lead to it's interpretation as A#8 — or even A#58 — rather than A#5.

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 **pitch.** The input contains six pitch-related spines — two of which (`**deg` and `**cocho`) cannot be processed by **pitch.** In addition, there are two non-pitch-related spines (`**embell` and `**metpos`).

```
!! 'pitch' example.
**kern	**freq	**MIDI	**deg	**metpos	**cocho	**degree	**embell
*M2/4	*M2/4	*M2/4	*M2/4	*M2/4	*M2/4	*M2/4	*M2/4
*	*	*	*	*	*	*d:	*
*	*	*	*	*tb8	*	*	*
=1	=1	=1	=1	=1	=1	=1	=1
8ee-	93foo	/60/bar	1foo	1	r	1/4	ct
.	.	/-60/	.	.	.	.	.
8ff	220	/62/	2	3	9.89	2/4	upt
.	.	/-62/	.	.	.	.	.
8dd-	936.2	/70/	1	2	7.07	3+/4	ct
.	.	/-70/	.	.	.	.	.
8d-	277.18	/61/	6	3	7.135	7/3	sus
.	.	/-61/	.	.	.	.	.
=2	=2	=2	=2	=2	=2	=2	=2
[4a-	r	.	5	1	r	r	.
.	.	.	7	3	5.5	1/4	ct
4a-]	300	/48/ /52/	1	2	8.11	6+/4	ct
.	.	/-48/	.	.	.	.	.
.	82.4 261.6	/-52/	2	3	7.33 6.4	3/4 5/4	ct
=3	=3	=3	=3	=3	=3	=3	=3
r	512	.	r	1	r	3/4 1/5	.
==	==	==	==	==	==	==	==
*-	*-	*-	*-	*-	*-	*-	*-
```

Executing the command

```
pitch -tx input > output.pit
```

produces the following result:

```
!! 'pitch' example.
**pitch    **pitch    **pitch    **deg    **metpos    **cocho    **pitch    **embell
*M2/4      *M2/4      *M2/4      *M2/4    *M2/4       *M2/4      *M2/4      *M2/4
*          *          *          *        *           *          *d:        *
*          *          *          *        *tb8        *          *          *
=1         =1         =1         =1       =1          =1         =1         =1
Eb5        F#2+9      C4         1foo     1           r          D4         ct
.          .          .          .        .           .          .          .
F5         A3         D4         2        3           9.89       E4         upt
.          .          .          .        .           .          .          .
Db5        Bb5+7      Bb4        1        2           7.07       F#4        ct
.          .          .          .        .           .          .          .
Db4        Db4        Db4        6        3           7.135      C#3        sus
.          .          .          .        .           .          .          .
=2         =2         =2         =2       =2          =2         =2         =2
Ab4        r          .          5        1           r          r          .
.          .          .          7        3           5.5        D4         ct
.          D4+36      C3 E3      1        2           8.11       B4         ct
.          .          .          .        .           .          .          .
.          E2 C4      .          2        3           7.33 6.4   F4 A4      ct
=3         =3         =3         =3       =3          =3         =3         =3
r          C5-37      .          r        1           r          F4 D5      .
===        ===        ===        ===      ===         ===        ===        ===
*-         *-         *-         *-       *-          *-         *-         *-
```

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 `**freq`, `**MIDI`, and `**cocho` spines have been stripped away (due to the **-x** option). In the case of the `**degree` input, **pitch** recognizes the spelling of various pitches in the context of the key of D minor. Hence, the raised third degree is F#, and the raised sixth degree is B natural. Also note the presence of cents-deviation from equal temperament in the translation of the `**freq` data (second spine).

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

****cents** (2), **cents** (4), ****degree** (2), **degree** (4), ****freq** (2), **freq** (4), ****fret** (2), **hint** (4), ****kern** (2), **kern** (4), ****MIDI** (2), **midi** (4), **mint** (4), ****pitch** (2),

****semits** (2), **semits** (4), ****solfg** (2), **solfg** (4), ****specC** (2) **specC** (4), ****Tonh** (2), **tonh** (4)