

NAME

pf — determine prime form for successive vertical sonorities

SYNOPSIS

pf [*inputfile ...*] [> *outputfile.pf*]

DESCRIPTION

The **pf** command is used to determine the *prime form* for any of five set-theory related inputs: pitch (****semit**s), pitch-class (****pc**), normal form (****nf**), interval-vector (****iv**), or Forteian set name (****pcset**).

“Prime form” is a standardized way of representing the symmetrical interval structure for any arbitrary set of pitch-classes. Prime form is the most intervallically compact representation of a pitch-class set, transposed to begin on pitch-class 0 — where inversions are deemed equivalent. By way of example, any major or minor chord, having any root, in any inversion, consisting of any number of notes, with any spelling, will have the prime form: 0,3,7. See REFERENCES below.

When provided with ****semit**s or ****pc** inputs, **pf** treats each input record as a set of pitches. Unisons and other pitch-class duplications have no effect on the output. Rests within a set of pitches are ignored; where an input record consists solely of one or more rests, a null-token is output. The **pf** command can also accept other set theoretic inputs, such as ****nf**, ****iv**, ****pcset**, as well as ****pf** itself.

The following table identifies the input representations accepted by **pf**. For descriptions of the various input representations (including ****pf**) refer to Section 2 (*Representation Reference*) of this reference manual.

It is recommended that output files produced using the **pf** command should be given names with the distinguishing ‘.pf’ extension.

**iv	interval vector representation
**nf	normal form representation
**pc	pitch-class representation
**pcset	Forteian pitch-class set name
**pf	prime form representation
**semit s	equal-tempered semitones with respect to middle C=0 (e.g. 12 = C5)

Input representations processed by pf.

OPTIONS

The **pf** command provides only a help option:

-h displays a help screen summarizing the command syntax

Options are specified in the command line.

EXAMPLES

The following command outputs the prime form for the sets formed by successive sonorities in the input file `opus24`. The input may be pitches, pitch-classes, Fortean set names, etc.

```
pf opus24 > opus24.pf
```

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

context (4), ****iv** (2), **iv** (4), ****nf** (2), **nf** (4), ****pc** (2), **pc** (4), ****pcset** (2), **pcset** (4), ****pf** (2), ****semits** (2), **semits** (4)

NOTE

The **pf** command is a shell script that invokes `pcset -p`.

REFERENCES

Allen Forte, *The Structure of Atonal Music*. New Haven: Yale University Press, 1973.

John Rahn, *Basic Atonal Theory*. New York: Longman Inc., 1980.

Straus, J. *Introduction to Post-Tonal Theory*. Englewood Cliffs, N.J.: Prentice Hall, 1990.