

pfilter

keys:	[from]	<i><number></i>	source picture containing list of positions (<i>Plist</i>)
	[to]	<i><number></i>	output picture (<i>Plist</i>)
	tolerance	<i><number></i>	specify the tolerance for approximating the curve

Use the **pfilter** command to edit the list of positions produced by the **sketch** command. It allows you to reduce the number of points in a curve without distorting the curve beyond a specified tolerance.

Examples

```
pfilter
```

This command filters the curve defined by the current picture using the default tolerance of 1 and replaces the current picture with the result.

```
pfilter 1 to 2 tolerance 3.5
```

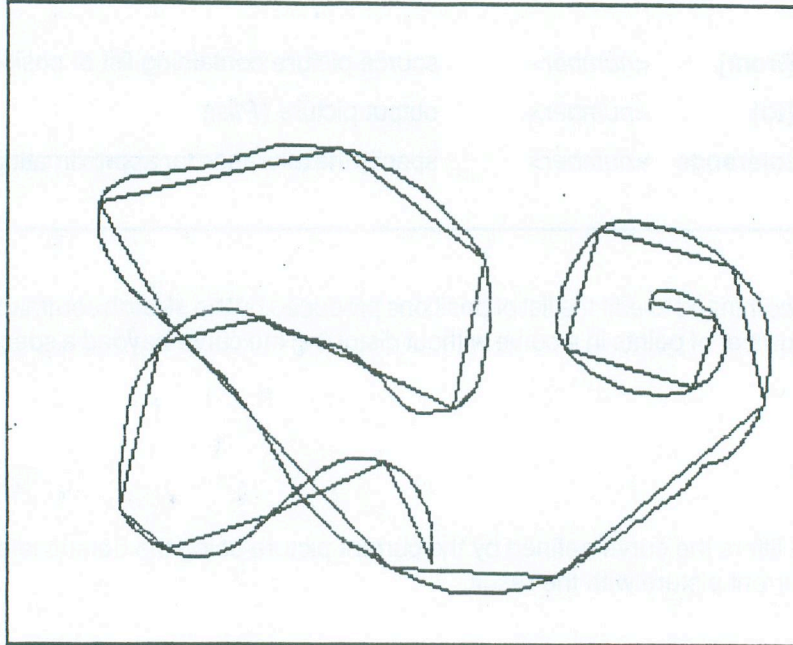
This command generates a more coarse approximation of the curve described in picture 1 and stores the result in picture 2.

Description

The **pfilter** command provides an easy-to-use curve filtering facility. Use this command to reduce the data produced by the **sketch** command after free-hand sketching with the mouse. The filtering process is controlled by the **tolerance** key which specifies the maximum departure of the approximation to the curve from the original curve.

The **pfilter** command moves along the curve until the line between the current point to the start point departs from the curve by more than the specified tolerance. The point before the current point is retained and all previous points except the start point are discarded. The process is then repeated starting from the last point to be retained. This is illustrated in the diagram given overleaf. A **tolerance** of eight pixels is specified to be the maximum departure from the original curve and the filtered version.

pfilter



The **pfilter** command requires a *Plist* (position list) source picture of the type produced by **sketch**, with at least two columns and layers and only one row. The data from all source layers are transferred to the output picture.

This command returns the length of the edited curve in the variable *p*, and the area for a closed curve in the variable *a*.

Notes

see also:

sketch

variables set:

p (length of curve)

a (area enclosed by a closed curve)

Defaults and Ranges

keys/options	defaults	range
[from]	current picture, held in the variable <i>select</i>	valid <i>Plist</i> picture number
[to]	source picture	valid picture number
tolerance	1.0	real number greater than or equal to zero