/DEST={*dMatrixName*, *dendrodrogramName*}

> Specifies the output waves when you have specified /OTYP=`Both`.
>
> *dMatrixName* and *dendrodrogramName* are names of waves to be created or overwritten, optionally preceded by data folder paths.
>
> If you specify /OTYP=Both and omit /DEST, HCluster creates an output vector dissimilarity matrix named M_HCluster_Dissimilarity and an output dendrogram wave named M_HCluster_Dendrogram, both in the current data folder.

/O
> If present, allows the destination waves specified by the /DEST flag to overwrite a pre-existing wave.

### Parameter

If you specify /ITYP=`Vectors` or omit /ITYP, *sourceWave* is an N row x M column matrix containing N data vectors of length M in the rows. HCluster creates a vector dissimilarity matrix from this input using the distance calculation method specified by /LINK.

If you specify /ITYP=`DMatrix`, *sourceWave* is a square matrix of dissimilarities between data vectors. If you choose this format, you are responsible for computing the dissimilarities between vectors. If none of the vector dissimilarity metrics provided by the /DISS flag are suitable, or if you require more processing after computing dissimilarities, you can use this format.

### Dendrogram Output Wave

The HCluster operation optionally produces a dendrogram output wave that can be used to create a dendrogram plot. See **Dendrogram Wave Format** on page III-167 for a description of the dendrogram output wave format.

### Reference

The HCluster operation is based on code developed by Daniel Müllner. This reference gives details of the algorithm and the various distance and vector dissimilarity measures and node agglomeration methods:

Daniel Müllner, fastcluster: Fast Hierarchical, Agglomerative Clustering Routines for R and Python, Journal of Statistical Software, 53 (2013), no. 9, 1–18, http://www.jstatsoft.org/v53/i09/.

### See Also
**Hierarchical Clustering** on page III-162

# hcsr

```
hcsr(cursorName [, graphNameStr])
```
The hcsr function returns the horizontal coordinate of the named cursor (A through J) in the coordinate system of the top (or named) graph's X axis.

### Parameters
*cursorName* identifies the cursor, which can be cursor A through J.

*graphNameStr* specifies the graph window or subwindow.

When identifying a subwindow with *graphNameStr*, see **Subwindow Syntax** on page III-92 for details on forming the window hierarchy.

### Details
The X axis used is the one that controls the trace on which the cursor is placed.

### Examples
```
Variable xAxisValueAtCursorA = hcsr(A)      // not hcsr("A")
String str="A"
Variable xA= hcsr($str,"Graph0")            // $str is a name, too
```

### See Also
The **pcsr**, **qcsr**, **vcsr**, **xcsr**, and **zcsr** functions.

**Programming With Cursors** on page II-321.