

# Manual

jHc is a standalone Java desktop application that allows the user to subject data to different approaches of agglomerative hierarchical clustering.

## Data Input

Copy and paste the relevant data into the spreadsheet in the tab [Data Input](#). To paste the clipboard contents, simply click on cell A1 and then use [Ctrl-v](#) to paste the data.

Any rows with non-numerical data (i.e. data not to be analysed) need to be marked accordingly. This can be done by clicking on the spreadsheet row number and then using a [mouse right-click](#) to display a pop-up menu from which the option [Ignore row](#) needs to be selected. Similarly, any columns that contain non-numerical data need to be marked. This is done by clicking on the spreadsheet column name and performing a [mouse right-click](#); from the pop-up menu, select [Ignore column](#). For the column that contains the labels of the individual data sets choose the option [Mark as label](#).

## Analysis

### Hierarchical clustering

Data can be normalised prior to calculation of initial distances. The available normalisation options are:

- no normalisation
- MinMax
- Z-Score

The linkage approaches available are:

- Average linkage
- Complete linkage
- Single linkage
- Ward's method
- Weighted linkage

Distances can be calculated as

- Euclidean
- Manhattan
- Supremum

When choosing Ward's method, distances are automatically calculated as Euclidean distances.

## **Dendrogram**

The resultant dendrogram is automatically displayed in the panel [Dendrogram](#). If an [Output directory](#) is specified in the section [Output](#), an image file with the dendrogram will be written based on the specifications in this section.

## **Output**

Data and log files are automatically written to the user-specified [Output directory](#). If no [Output directory](#) is given, no output files will be generated. You can also specify an [Output prefix](#) to be added in front of all output files.

## **Dendrogram**

Shows the resultant dendrogram after performing a hierarchical clustering analysis.

## **Log**

Shows the log messages of the hierarchical clustering analysis.