importdata

Load data from file

Syntax

```
importdata(filename)
A = importdata(filename)
A = importdata(filename, delimiter)
A = importdata(filename, delimiter, nheaderlines)
[A, delimiter] = importdata(...)
[A, delimiter, nheaderlines] = importdata(...)
[...] = importdata('-pastespecial', ...)
```

Description

`importdata(filename)` loads data from `filename` into the workspace.

`A = importdata(filename)` loads data into `A`.

`A = importdata(filename, delimiter)` interprets `delimiter` as the column separator in ASCII file `filename`.

`A = importdata(filename, delimiter, nheaderlines)` loads data from ASCII file `filename`, reading numeric data starting from line `nheaderlines+1`.

`[A, delimiter] = importdata(...)` returns the detected delimiter character for the input ASCII file.

`[A, delimiter, nheaderlines] = importdata(...)` returns the detected number of header lines in the input ASCII file.

`[...] = importdata('-pastespecial', ...)` loads data from the system clipboard rather than from a file.

Input Arguments

`filename`	Name and extension of the file to import. If `importdata` recognizes the file extension, it calls the MATLAB helper function designed to import the associated file format (such as `load` for MAT-files or `xlsread` for spreadsheets). Otherwise, `importdata` interprets the file as a delimited ASCII file. For a list of supported file formats, see the `file formats` table.
`delimiter`	Character in an ASCII file to interpret as a column separator, such as `','` or `';'`. Use `'\t'` for tab. **Default:** interpreted from file

nheaderlines	Number of text header lines in the input ASCII file. `importdata` stores all the header text in the `textdata` field, and stores the last line of column header text in the `colheaders` field. **Default:** interpreted from file
`'-pastespecial'`	Keyword to request that `importdata` load data from the system clipboard instead of a file.

Output Arguments

A	Data from the file. The class of *A* depends on the characteristics of the input file. As described in the Inputs section, `importdata` calls a helper function to read the data. When the helper function returns more than one nonempty output, `importdata` combines the outputs into a `struct` array. The following table lists the file formats associated with helper functions that can return more than one output, and the possible fields in *A*.

File Format	Possible Fields	Class
MAT-files	One field for each variable	Associated with each variable.

ASCII files and Spreadsheets	`data`
	`textdata`
	`colheaders`
	`rowheaders`
		For ASCII files, `data` contains a `double` array. Other fields contain `cell` arrays. For spreadsheets, each field contains a `struct`, with one field for each worksheet.

Images	`cdata`
	`colormap`
	`alpha`
		See `imread`.

Audio files	`data` `fs`	See `auread` or `wavread`.

The MATLAB helper functions for all other supported file formats return one output. For more information about the class of each output, see the functions listed in the `file formats` table.

For ASCII files and spreadsheets, `importdata` expects to find numeric data in a rectangular form (that is, like a matrix). Text headers can appear above or to the left of the numeric data, as follows:

- Column headers or file description text at the top of the file, above the numeric data.
- Row headers to the left of the numeric data.

To import ASCII files with nonnumeric characters anywhere else, including columns of character data or formatted dates or times, use `textscan` instead of `importdata`. For more information, see Importing Nonnumeric ASCII Data.

When importing spreadsheets with columns of nonnumeric data, `importdata` cannot always correctly interpret the column and row headers.

If the ASCII file or spreadsheet contains either column or row headers, but not both, `importdata` returns a `colheaders` or `rowheaders` field in the output structure, where:

- `colheaders` contains only the lowest line of column header text. `importdata` stores all text in the `textdata` field.
- `rowheaders` is created only when the file or worksheet contains a single column of row headers.

`delimiter`	The character that `importdata` detected as the column separator in the input ASCII file.
`nheaderlines`	The number of text header lines that `importdata` detected in the input ASCII file.

Examples

Import and display the image `ngc6543a.jpg`:

```
nebula_im = importdata('ngc6543a.jpg');
image(nebula_im);
```

`nebula_im` is class `uint8` because the helper function, `imread`, returns empty results for `colormap` and `alpha`.

Using a text editor, create a space-delimited ASCII file with column headers called `myfile.txt`:

```
Day1   Day2   Day3   Day4   Day5   Day6   Day7
```

```
95.01 76.21 61.54 40.57  5.79 20.28  1.53
23.11 45.65 79.19 93.55 35.29 19.87 74.68
60.68  1.85 92.18 91.69 81.32 60.38 44.51
48.60 82.14 73.82 41.03  0.99 27.22 93.18
89.13 44.47 17.63 89.36 13.89 19.88 46.60
```

Import the file, specifying the space delimiter and the single column header, and view columns 3 and 5:

```
M = importdata('myfile.txt', ' ', 1);

for k = [3, 5]
   disp(M.colheaders{1, k})
   disp(M.data(:, k))
   disp(' ')
end
```

Alternatives

The easiest way to import data is to use the Import Wizard, a graphical user interface. The Import Wizard imports the same file formats as `importdata`, but allows direct control over the variables to create. To start the Wizard, select **File** > **Import Data** or call `uiimport`.

See Also

`file_formats` | `load` | `save` | `textscan` | `uiimport`

How To

- Importing Text Data Files
- Importing Excel Spreadsheets
- Processing a Sequence of Files