

Importing data

Created using Maple 14.01

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```
> restart;
with(StringTools) :
FormatTime("%m-%d-%Y, %H:%M");
                                "08-04-2012, 10:31" (1)
```

Here's how to read in data from a text file. Notice is the awkward double slash `\\` syntax. If you're trying this example, it will only work if you place the file "data1.txt" in the C: directory. Alternatively, put "data1.txt" where you like and modify the path in the `readdata` statement.

```
> data1 := readdata("C:\\import data1.txt", [float, float]);
                                data1 := [[1., 1.], [2., 4.], [3., 9.], [4., 16.], [5., 25.], [6., 36.]] (2)
```

Instead of "`[float, float]`", the syntax "`float, 2`" can be used. As will be seen below, this is useful when the data file has many columns.

```
> data1 := readdata("C:\\import data1.txt", float, 2);
                                data1 := [[1., 1.], [2., 4.], [3., 9.], [4., 16.], [5., 25.], [6., 36.]] (3)
```

Columns and elements of the table of data can be accessed using

```
> data1[1];
data1[2];
data1[2, 1];
data1[2, 2];
                                [1., 1.]
                                [2., 4.]
                                2.
                                4. (4)
```

To make lists of the x and y values (to use for plotting for example), the `seq` command can be used.

```
> x := [seq(data1[i, 1], i = 1 .. nops(data1))];
y := [seq(data1[i, 2], i = 1 .. nops(data1))];
                                x := [1., 2., 3., 4., 5., 6.]
                                y := [1., 4., 9., 16., 25., 36.] (5)
```

Here's an example of a large data file buried deep in some file structure. This data file has 501 columns and each column has 2500 entries.

```
> data2 := readdata("D:\\Jake's\\UBCO\\2012-2013\\Maple tutorials\\import data2.dat", float,
501) :
nops(data2);
                                2500 (6)
> data2[1];
nops(data2[1]);
[0., 0.2880, 0.002720, 0.2800, 0.002240, 0.2880, 0.002640, 0.2880, 0.002640, 0.2880,
0.002720, 0.2960, 0.002800, 0.2880, 0.002480, 0.2960, 0.002480, 0.2880, 0.002560,
```

0.2880, 0.002640, 0.2880, 0.002240, 0.2960, 0.002720, 0.2880, 0.002320, 0.2960,
0.002560, 0.2960, 0.002080, 0.2960, 0.002160, 0.2880, 0.002640, 0.2960, 0.002480,
0.2880, 0.002640, 0.2880, 0.002720, 0.2880, 0.002400, 0.2800, 0.002640, 0.2880,
0.002400, 0.2880, 0.002640, 0.2880, 0.002560, 0.2960, 0.002320, 0.2960, 0.002720,
0.3040, 0.002800, 0.2880, 0.002480, 0.2960, 0.002640, 0.2960, 0.002720, 0.3040,
0.002720, 0.2800, 0.002640, 0.2880, 0.002640, 0.2880, 0.002640, 0.2880, 0.002640,
0.2960, 0.002320, 0.2880, 0.002400, 0.2880, 0.003040, 0.2960, 0.002560, 0.2960,
0.002720, 0.2880, 0.002480, 0.2960, 0.002800, 0.2960, 0.002720, 0.2960, 0.002560,
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0.002240, 0.2960, 0.002720, 0.2960, 0.002720, 0.2800, 0.002640, 0.2960, 0.003120,
0.2960, 0.002800, 0.2960, 0.002240, 0.2960, 0.002560, 0.2960, 0.002800, 0.2880,
0.002480, 0.2800, 0.002560, 0.2880, 0.002320, 0.2960, 0.003200, 0.2880, 0.002880,
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0.002160, 0.2880, 0.001920, 0.2960, 0.002480, 0.2960, 0.002320, 0.2880, 0.002960,
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