



FREE eBook

LEARNING

octave

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#octave

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About

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Chapter 1: Getting started with octave

Remarks

This section provides an overview of what octave is, and why a developer might want to use it.

It should also mention any large subjects within octave, and link out to the related topics. Since the Documentation for octave is new, you may need to create initial versions of those related topics.

Examples

Installation or Setup

Instructions on getting octave set up or installed.

Installing Octave for debian systems (**Debian, Ubuntu**):

Simple: `sudo apt-get install octave`

Advanced: Well, if you want to install other external packages

```
sudo apt-get install octave-control octave-image octave-io octave-optim octave-signal octave-statistics
```

For further details like

- install from PPA.
- install from sources, etc.

A very good detailed wikis are present in Octave's wiki pages

- For **Debian** or **Ubuntu** look at this - [wiki](#)
- For **Windows** have a look at this - [wiki](#)
- And for **Mac OS X** look at this - [wiki](#)

Hello World

1. start Octave by running the command `octave` (the executable should be in your path)
2. type `disp('Hello, World!')` at the Octave command prompt

```
>> disp('Hello, World!')
Hello, World!
```

Reading commands from a script file

Octave commands can be saved in a file and evaluated by loading the file using `source`.

For instance, let `hello.m` be the text file containing two lines (the first line is a comment)

```
# my first Octave program
disp('Hello, World!')
```

If you type `source hello.m` at an Octave command prompt you will get

```
>> source hello.m
Hello, World!
```

Note that a script file doesn't necessarily have to have the extension `.m`.

Matrices

Create a 2x3 matrix. Each row is a comma-separated list of elements. Rows are separated by a semicolon.

```
A = [1, 2, 3; 4, 5, 6]

# A =
#
#  1  2  3
#  4  5  6
```

Sum of two matrices

```
B = [1, 1, 1; 1, 1, 1]

# B =
#
#  1  1  1
#  1  1  1

A+B

# ans =
#
#  2  3  4
#  5  6  7
```

Multiply matrix by a scalar

```
2*A

# ans =
#
#  2  4  6
#  8 10 12
```

Matrix multiplication

```

C = [1, 0; 0, 0; 0, 1]

# C =
#
# 1 0
# 0 0
# 0 1

A*C

# ans =
#
# 1 3
# 4 6

```

A matrix can be a column vector

```

C = [2; 0; 1]

# C =
#
# 2
# 0
# 1

A * C
# ans =
#
# 5
# 14

```

Concatenating matrices

For horizontal concatenation, that is joining two block matrices column-wise

```

A= [1,2;3,4];
B=[4,3;2,1];
C=horzcat(A,B);
disp(C)
# C=
#
# 1 2 4 3
# 3 4 2 1

```

Read [Getting started with octave online](https://riptutorial.com/octave/topic/5697/getting-started-with-octave): <https://riptutorial.com/octave/topic/5697/getting-started-with-octave>

Credits

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