



# Saving on a Matlab file

## Terminal Octave ou MATLAB

```
>> clear all;  
>> A = [1 2 3;4 5 6]; B = 2*A;  
>> save -mat workspace.mat  
>> clear all  
>> who  
>> load workspace.mat
```

The command

**save -mat workspace.mat**

allows to save all the variables in your workspace

Reading (or loading) the variables stored in the file can be one with

**load workspace.mat**

It is also possible to load a single variable

**load workspace.mat A**

**save -mat onevar.mat A**

**load -mat onevar.mat**

MATLAB and Octave for beginners

Writing and reading a file is often necessary in order to read or transfer data. We won't see only possibilities but we will focus on the center. First we will see how to save the workspace or only some variables to be recovered later, then we will see the writing of more complex files. Let's first see how to save the workspace. For example: I take two variables a and b two matrices so a is equal to 1, 2, 3 new line 4, 5, 6 and then B which is equal to times two times A. Now I would like to save them all into a file. So I save minus mat means in MATLAB format and I save all these into a file name workspace dot mat. so here note that the extension is a mat, so mat and not just m. so this saves all the variables in my environment into the file workspace dot mat. So it is a binary format of MATLAB. Now I clear all my variables again so, with who I can see that there is no variable at all and I can load again my file work space dot mat.

Notes

Summary



# Saving on a simple text file

Terminal Octave ou MATLAB  
Variables in the current scope:

onevar

```
>> onevar  
onevar =
```

1	2	3
4	5	6

```
>> clear all  
>> A = load('onevar.txt');  
>> who  
Variables in the current scope:
```

A

```
>> A  
A =
```

1	2	3
4	5	6

```
>>
```

The command

```
save -ascii onevar.txt A
```

allows to store the variable A in the file  
onevar.txt

The reading can be done by

```
load onevar.txt
```

```
C = load('onevar.txt');
```

The file can be modified with a simple editor.  
Pay attention to keep the matrix structure of  
the file

MATLAB and Octave for beginners

and now I can see who and I see the two variables a and b which are loaded again into one my workspace and indeed A is the matrix that I was defining before I clean again everything and I load only the variable A so I can say load from the file workspace mat the variable A and the only variable which is available is A If you prefer to save your variables int the text file rather than to save it in a binary MATLAB format we can, we can use a, the ascii format. For this, you will have to give them option minus ascii instead of minus mat and then you can only save one variable. okay, and I save one variable into the text file onevar dot txt to this the file name and then I have to say which variable to save. As so here I save a A into the file onevar dot txt. I clear all and now I can load the file which I just wrote load onevar txt A new variable is created and now the variable name is onevar the same name as the file and indeed it has a values of my matrix A and now I would like to load and give a name A to the variable so I have to say A is equal to load and now onevar dot text has, has given as a string and then I can load and if I do 'who' I can see the my variable is named A and the contents are the correct one.

Notes

Summary



# Saving on a simple text file

Terminal Octave ou MATLAB

Variables in the current scope:

onevar

>> onevar

onevar =

1	2	3
4	5	6

>> clear all

>> A = load('onevar.txt');

>> who

Variables in the current scope:

A

>> A

A =

1	2	3
4	5	6

>>

The command

`save -ascii onevar.txt A`

allows to store the variable A in the file  
onevar.txt

The reading can be done by

`load onevar.txt`

`C = load('onevar.txt');`

The file can be modified with a simple editor.  
Pay attention to keep the matrix structure of  
the file

MATLAB and Octave for beginners

So the text onevar dot txt so sorry the file onevar dot txt can be changed  
using an editor If you want to write more complex text on a file you can  
use the comment 'fopen' 'fprintf' or 'fclose'.

Notes

Summary



# Advanced writing on files

Terminal Octave ou MATLAB

```
>> [fileID, message] = fopen('hi.txt','w');  
>> fprintf(fileID, '■'
```

To write more complex text or numbers on a file requires the use of:

**fopen**  
**fprintf**  
**fclose**

MATLAB and Octave for beginners

They work in a little more complex way so I advise you to look for help for this functions on the internet. Here I give you just a simple example on the use. so if you want to write in a file more than just a matrix you must use a open a file and to open it you need to use the function 'fopen'. so here is the way that you use it. you have to write a file ID and message which are the outputs of the function 'fopen' we will see that around what this method with these two variables mean. This is the syntax so equal to 'fopen' then I have to give as an argument a file name 'hi.txt' for example and then comma and then I have to say why I want to write this of file. I want to open it to write 'w' so this file ID is the identity of the file, which is open and now I can write into this file identifier so I have to say ' fprintf ' then file identifier which is not just the string hi.txt This is really file ID which is something different is an identifier known by a Octave.

Notes

Summary



3m 56s

# Advanced writing on files

## Terminal Octave ou MATLAB

```
>> [fileID, message] = fopen('hi.txt','w');
>> fprintf(fileID, '\nBonjour, on est en %d
  et il fait %3.1f degree', [2016, 4.5])
>> fclose(fileID)
ans = 0
>> type hi.txt

Bonjour, on est en 2016 et il fait 4.5 degr
ee
>> sprintf('\nBonjour, on est en %d et il f
  ait %3.1f degree', [2016, 4.5])
ans =
Bonjour, on est en 2016 et il fait 4.5 degr
ee
>> var = [2016, 4.5];
>> sprintf('\nBonjour, on est en %d et il f
  ait %3.1f degree', var)
ans =
Bonjour, on est en 2016 et il fait 4.5 degr
ee
>> █
```

To write more complex text or numbers on a file requires the use of:

**fopen**  
**fprintf**  
**fclose**

MATLAB and Octave for beginners

and then I can say what I want to print into the file so I use strings and they you say hello in french slash n means first and new line so slash new line Bonjour then I can say we are in, then this percentage d this is a formatting which we will discover later on and then I say El il fait so Bonjour on est en bla bla El il fait degrees okay so now I'll I have to tell exactly what these percentage d and percentage 3.1f means and to assign those values with those strings I have to give a this little vector 2016 comma four dot five and now I can close the file and with type I can see the contents of a file name so type then I say hi dot txt and I would see what's in there and I see that we have written Bonjour on a on est en et il fait third percent degree. so I have a string formatted beginning with the dashes and then I have two numbers which are understood by fprintf I can do also a print on the screen by using the s frintf function and this prints the string on the screen instead of the file so why to use this sprintf fprintf is because I can use a variables instead of 2016 and 4 dot 5. I define a variable with these two numbers okay so lead a vector and then I can call a sprintf with this variable. and then the values are used to fill the string.

Notes

Summary



5m 27s

## 3.2 Saving on files



- Saving in Matlab format
- Saving in a simple text file
- Loading data from simple text file
- Writing a file

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Most often the writing and reading a file are more complicated. Here we have seen just the basics nevertheless with the concepts learned you should be able to adapt to these specific needs. If this is the case you should first run some tests and check that your settings that your program, your script are reliable.

Notes

Summary



7m 49s