

# Creating and accessing files `save, load`

## Files

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Variables are erased from memory after quitting Matlab (`>>quit` or `>> exit`).

- The command `>>save` saves all workspace variables into the file `matlab.mat` in the current directory.
- `>>save A B` saves just A and B.
- `>>save myfile A B C*` saves A, B and all variables starting with C into `myfile.mat`. **Note:** If you happen to have a variable called `myfile` in your workspace, then this variable together with the above variables will be stored in `matlab.mat` (:-)).

# Files: Loading from a .mat-file

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- `>>load` reads the file `matlab.mat` (in current directory or on matlab path) and loads all variables in the workspace, i.e. restores the state of the workspace after the corresponding `save`-command.
- `>>load myfile` does the same with `myfile.mat`.
- `>>load myfile A B` loads just variables `A,B`.

**Note:** These `.mat`-files are in Matlab's **internal format**. The next slide treats `ASCII`-file handling.

**Important:** `save` and `load` can't be used to save your session. Usually, much more important than saving variables, is saving the commands that created those variables, i.e. **saving your session**. For that you need **scripts** and `.m` - files.

# ASCII Files, `load textmat.dat`

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- To create user-readable files, append the flag `-ascii` to the end of a save command.
- **Note:** In this case, MATLAB does not append any extension to the file name, so you may want to add an extension such as `.txt` or `.dat`.

**Example:** Create a text-file `textmat.dat` outside Matlab.

**textmat.dat:**

1	2	3	4
5	6	7	8

```
>> load -ascii textmat.dat
>> % You can omit -ascii here
>> textmat
textmat =
     1     2     3     4
     5     6     7     8
```

# ASCII Files, `save -ascii Afile.dat`

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### Save a Matlab-variable into an ascii-file:

```
>> A=magic(3);  
>> save -ascii Afile.dat A  
>> % or: >> save -ascii -double Afile.dat A  
>> clear  
>> load Afile.dat  
>> who  
Your variables are: Afile  
>> Afile  
Afile =  
     8     1     6  
     3     5     7  
     4     9     2
```

See `help save` for more options.