**TOOL**

# Cheat Sheet: Linux and IPython

## Help and Autocompletion

| Command | Description |
|---|---|
| `obj?` | print documentation about obj |
| `obj??` | print documentation about obj and any available source code defining it |
| `obj.` | list the attributes of obj (accessible via . typed after obj) |
| `sometext<AB>` | show list of possible completions after any initial characters |

## IPython Magic Functions (prefaced with %)

### Information on magic functions

| Command | Description |
|---|---|
| `%magic` | print in-depth information about set of available magic functions |
| `%lsmagic` | print names of all available magic functions |
| `%timeit?,`<br>`%lsmagic?,`<br>`%who?` | print help for any magic function by appending ? to the end, e.g., |
| `%timeit?` | to get information about %timeit |

# Running code, and inspecting commands and variables

| Command | Description |
|---|---|
| `%run filename` | execute the python code in filename, and bring everything from that module's namespace into the current interactive namespace |
| `%hist` | print list of full command history in current session • %hist -f filename : save list of full command history to filename |
| `%who` | print list of all defined variables |
| `%whos` | print list of all defined variables and their values |
| `%debug` | activate the interactive debugger after an error has occurred (requires knowledge of Python pdb debugger operation) |
| `%pprint` | toggle "pretty printing" on and off (may help with viewing contents of large objects) |
| `%timeit expression` | run specified Python expression, and return information how long it took to run |

# Interactions with the Operating System (files, etc.)

The commands below are Linux commands that you can run in iPython.

| Command | Description |
|---|---|
| `%ls` | list files in current directory |
| `%more filename` | print the contents of filename to the screen |
| `%cp` | copy one file to another, or to another directory (e.g., %cp file1 file2) |
| `%mv` | rename one file to another, or to another directory (e.g., %mv file1 file2) |
| `%mkdir directory_name` | make a new directory called directory_name |
| `%cd directory_name` | change current directory to specified directory_name • %pwd : print the current directory |
| `![command]` | execute the specified command in the system shell (e.g., !ls -l) |