



## INTRODUCTION TO EMACS

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### **1. Startup & Interface**

To launch Emacs, type the following command in your UNIX shell and press Enter:

```
emacs filename
```

where “filename” is the name of the file you wish to edit. If a file with this name does not exist, Emacs will create it. The biggest part of Emacs’ screen is dedicated to the text you edit. However on the bottom of the screen you can see the Mode Line and the Minibuffer.

#### Mode Line:

You cannot enter into it as it only displays information. This information is (from left to right):

- The state of the buffer, which can be: unmodified (indicated by --), modified (indicated by \*\*) or read-only (indicated by %%),
- The name of the file you are editing,
- The current line number of the cursor and
- The part of the file you are viewing (top, bottom, %).

#### Minibuffer:

It is used to display information other than Mode Line’s and to receive your input whenever Emacs prompts you to enter file, buffer and window commands for opening, saving, exiting etc (discussed later on).

### **2. Basic Concepts**

Emacs uses three data structures:

#### Files:

A file is a UNIX file on the disk. You never edit the actual file. Instead, you make a copy of the file into an Emacs buffer when reading, and you write the copy of the buffer out to a file when saving it.

#### Buffers:

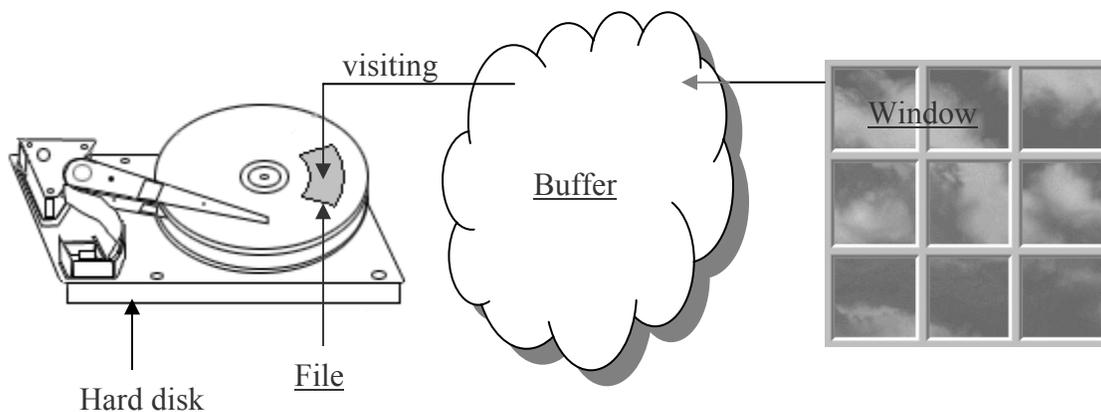
A buffer is the internal data structure that holds the text you actually edit. Emacs can have any number of buffers active at any moment. Buffers are associated with a file and have names. By default they are named after the file they read or, in the Emacs terminology, visit. This means that when you save the buffer, it's saved to the proper file.

At any given time exactly one buffer is selected: this is the buffer that your cursor is in, and this is where commands you type take effect. Buffers can be deleted at will; deleting a buffer in no way deletes the file on disk (though you may lose any editing changes you made if you don't save first).

### Windows:

A window is your view of a buffer. You can split the screen, horizontally or vertically, into as many windows as you like, each viewing a different buffer or even have several windows viewing different portions of the same buffer, as we will discuss later on. Windows can be created and deleted at will; deleting a window in no way deletes the buffer associated with the window.

The following figure illustrates the scheme:



## 3. Symbolic Description

The abbreviation C-k is used to indicate the action of holding down the Control key and then striking k, for any k on your keyboard. Same stands for M-k where M indicates the Alt key.

## 4. File Manipulation

- C-x C-f opens a file. The Minibuffer prompts you to enter the name of the file you wish to open. If no buffer is visiting the particular file, a buffer is created and named after the file, otherwise Emacs selects the already existing, requested buffer.
- C-x C-s saves the file. It actually writes what is in the buffer into the file.

## 5. Buffer Manipulation

- C-x b prompts for a buffer name and switches the buffer of the current window to that buffer.

- `C-x C-b` creates a new window which lists all your buffers and their details.
- `C-x k` prompts for a buffer name and removes the entire data structure for that buffer from Emacs. If the buffer is modified you'll be prompted to save it. This does not delete the associated file. Alternatively use `C-x 0`.

## 6. Window Manipulation

- `C-x o` switches to another window, making it the active window. Repeated invocation of this command moves through all the windows.
- `C-x 1` deletes all other windows except the current one, making one window on the screen. Note that this does not delete the buffers or files associated with the deleted windows.
- `C-x 2` splits the current window in two, vertically. This creates a new window, but not a new buffer: the same buffer will now be viewed in the two windows. This allows you to view two different parts of the same buffer simultaneously.
- `C-x 3` splits the current window in two, horizontally. This creates a new window, but not a new buffer: the same buffer will now be viewed in the two windows. This allows you to view two different parts of the same buffer simultaneously.
- `C-x C-c` quits Emacs after prompting to save if the buffer is modified.

## 7. Text Editing Commands

It's time to talk about the reason for using Emacs itself: editing text. Emacs supports the following commands:

- `C-a` takes you to the beginning of the current line.
- `C-e` takes you to the end of the current line.
- `C-<` takes you to the top of your document.
- `C->` takes you to the end of your document.
- `Backspace` deletes character before cursor.
- `C-k` deletes to the end of the current line.
- `C-Space` sets a mark.
- `C-w` deletes from the mark to the cursor's current location.
- `M-x goto-line` prompts you to enter the number of the line where you wish your cursor to jump.
- `M-w` copies.
- `C-y` restores deletions and copies at the point of the cursor and therefore can be used in combination with `C-k` or `C-w` to cut-paste and with `M-w` to copy-paste.
- `C-s` searches for a sequence of characters forward.
- `C-r` searches for a sequence of characters backward.