Case Study on Text Editors

1. MS-DOS Editor

1.1 Introduction

The MS-DOS Editor is a character-based text editor that comes with MS-DOS (since version 5) and 32-bit versions of Microsoft Windows. It superseded edlin, the standard editor in earlier versions. Until MS-DOS 6.22 it was actually, QBasic running in editor mode, but from DOS 7 (Windows 95) QBasic was removed and MS-DOS Editor became a standalone program.

The editor is sometimes used as a substitute for Notepad, where Notepad is limited to small files only. The editor can edit files that are up to 65,279 lines and up to approximately 5MB in size. MS-DOS versions are limited to approximately 300KB, depending on how much conventional memory is free. The editor can be launched by typing it into the Run command dialog on Windows, and by typing edit into the command-line interface (usually cmd.exe). Edit is still included in later versions of Windows such as Windows XP, Windows Vista, and Windows 7, 32-bit.

MS-DOS Editor v 2.0 first appeared with Windows 95 and appears in Windows 7/8/10 too. As it is a DOS program, it is not included in any 64-bit version of Windows.

1.2 Features

- MS-DOS Editor uses a text user interface and its colour scheme can be adjusted.
- It has a multiple document interface in which its version 2.0 can open up to nine files at a time.
- The screen can be split vertically into two panes which can be used to view two files simultaneously or different parts of the same file.
- It can also open files in binary mode, where a fixed number of characters are displayed per line, with newlines treated like any other character. This mode shows characters as hexadecimal characters (0-9 and A-F).
- Editor converts Unix newlines to DOS newlines and has mouse support.

Some of these features were added only in 1995 (version 2.0), with the release of Windows 95.

1.3 Commands

To open the MS-DOS editor, the **edit** command is used. The following attributes can be used with this command:

EDIT [/B] [/H] [/R] [/S] [/<nnn>] [/?] [File...]

/B	Forces monochrome mode.
/H	Displays the maximum number of lines possible for your hardware.
/R	Load file(s) in read-only mode.
/S	Forces the use of short file names.
/<nnn>	Load binary file(s), wrapping lines to <nnn> characters wide.
/?	Display a summary of command line options.
[File...]	Specifies initial files(s) to load.

The other commands and keyboard shortcuts are listed as follows:

Home	Move cursor to the beginning of the line.
End	Move cursor to the end of the line.
Ctrl+Up	Scroll up one line.
Ctrl+Down	Scroll down one line.
PageUp	Scroll up one screen.
PageDown	Scroll down one screen.
Ctrl+PageUp	Scroll left one screen.
Ctrl+PageDown	Scroll right one screen.

Ctrl+Home	Scroll to the top of the document.
Ctrl+End	Scroll to the bottom of the document.
Ctrl+Left	Move left one word.
Ctrl+Right	Move right one word.
Enter	Starts a new line or moves text after cursor down.
Delete (Del)	Deletes character that cursor is on or currently selected text.
Backspace	Deletes one character before the cursor.
Tab	Moves text to next tab stop, or indents line if at start.
Insert	Switch between insert and overwrite modes.
Ctrl+Y	Deletes the current line.
Ctrl+V	Pastes contents currently in the buffer, if any.
Ctrl+P	Allows special characters to be inserted into Edit.
Ctrl+C	Copies currently selected text into the buffer.
Ctrl+X	Cuts the currently selected text into the buffer.
Shift+Tab	Removes indents on the selected line.
Ctrl+Q+F	Find text.
Ctrl+Q+A	Find and replace text.
F3	Repeat the last search.
F6	Switch to the next edit window, if any.
Ctrl+F6	Open new edit window.
Ctrl+F4	Closes second edit window.
Ctrl+F8	Resizes edit window.
F1	Displays help.

2. VI Editor

2.1 Introduction

VI is a screen-oriented text editor originally created for the Unix operating system. The portable subset of the behaviour of vi and programs based on it, and the ex editor language supported within these programs, is described by (and thus standardized by) the Single Unix Specification and POSIX. The name "vi" is derived from the shortest unambiguous abbreviation for the ex command visual, which switches the ex line editor to visual mode.

Nowadays, there are advanced versions of the vi editor available, and the most popular one is VIM which is Vi Improved. Some of the other ones are Elvis, Nvi, Nano, and Vile.

2.2 Features

- It is present in almost every Linux Unix system, even the most minimal and works the same across different platforms and Distributions
- It is very small with a total code size of less than 100KB. This makes it easy to include vi on even the tiniest versions of Linux.
- It is typist-friendly and fulfils text-editing needs.
- It is very powerful, as just a few very short commands can make sweeping changes to large documents.

2.3 Commands

[Command Mode]

i Insert at cursor. (goes into insert mode)

a Write after cursor. (goes into insert mode)

A Write at the end of line. (goes into insert mode)

ESC Terminate insert mode.

u Undo last change.

U Undo all changes to the entire line.

o Open a new line. (goes into insert mode)

dd Delete line.

3dd Delete 3 lines.

D Delete contents of line after the cursor.

C Delete contents of a line after the cursor and insert new text.

dw Delete word.

4dw Delete 4 words.

cw Change word.

x Delete character at the cursor.

r Replace character.

R Overwrite characters from cursor onward.

s Substitute one character under cursor continue to insert.

S Substitute entire line and begin to insert at the beginning of the line.

~ Change case of individual character.

[Moving Within a File]

k Move cursor up.

j Move cursor down.

h Move cursor left.

l Move cursor right.

[Saving and Closing the file]

Shift+zz Save the file and quit.

:w Save the file but keep it open.

:q Quit without saving.

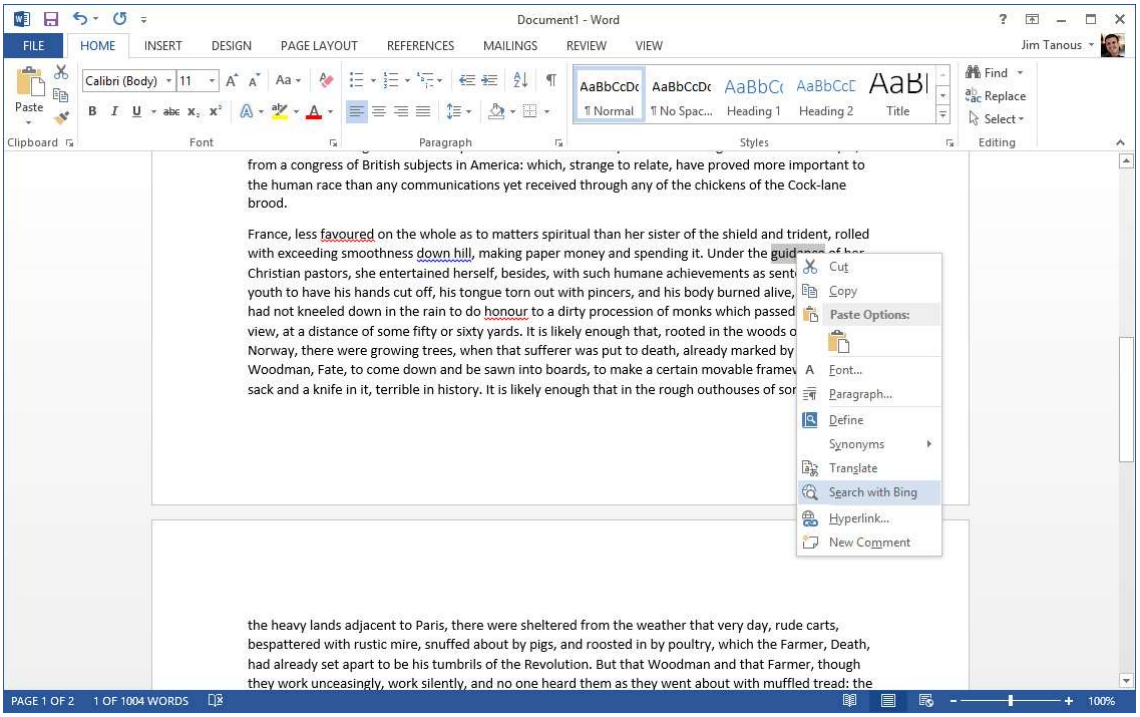
:wq Save the file and quit.

3. Microsoft Word

3.1 Introduction

Microsoft Word (or simply Word) is a word processor developed by Microsoft. It was first released on October 25, 1983 under the name Multi-Tool Word for Xenix systems. Word for Windows is available stand-alone or as part of the Microsoft Office suite. Word contains rudimentary desktop publishing capabilities and is the most widely used word processing program on the market. Word files are commonly used as the format for sending text documents via e-mail because almost every user with a computer can read a Word document by using the Word application, a Word viewer or a word processor that imports the Word format.

Word 6 for Windows NT was the first 32-bit version of the product, released with Microsoft Office for Windows NT around the same time as Windows 95. It was a straightforward port of Word 6.0. Starting with Word 95, releases of Word were named after the year of its release, instead of its version number.



3.2 Features

Among its features, Word includes a built-in spell checker, a thesaurus, a dictionary, and utilities for manipulating and editing text. The following are some aspects of its feature set.

- Templates: Includes the ability for users to create their own formatting templates, allowing them to define a file in which the title, heading, paragraph, and other element designs differ from the standard Word templates.
- Image formats: Word can import and display images in common bitmap formats such as JPG and GIF.
- WordArt: WordArt enables drawing text in a Microsoft Word document such as a title, watermark, or other text, with graphical effects such as skewing, shadowing, rotating, stretching in a variety of shapes and colors and even including three-dimensional effects.
- Macros: Word files can include advanced macros and even embedded programs.
- Bullets and numbering: Microsoft Word supports bullet lists and numbered lists. It also features a numbering system that helps add correct numbers to pages, chapters, headers, footnotes, and entries of tables of content.

3.3 Commands

[General Program Shortcuts]

Ctrl+N	Create a new document.
Ctrl+O	Open an existing document.
Ctrl+S	Save a document.
F12	Open the Save As dialog box.
Ctrl+W	Close a document.
Ctrl+Z	Undo an action.
Ctrl+Y	Redo an action.
Alt+Ctrl+S	Split a window or remove the split view.
Ctrl+Alt+V	Print Layout View.
Ctrl+Alt+O	Outline View.
Ctrl+Alt+N	Draft View.
Ctrl+F2	Print Preview View.
F1	Open the Help pane.
Alt+Q	Go to the "Tell me what you want to do" box.
F9	Refresh the field codes in the current selection.
Ctrl+F	Search a document.
F7	Run a spelling and grammar check.
Shift+F7	Open the thesaurus.

[Editing Text]

Backspace	Delete one character to the left
Delete	Delete one character to the right
Ctrl+Delete	Delete one word to the right
Ctrl+C	Copy or graphics to the Clipboard text
Ctrl+X	Cut selected text or graphics to the Clipboard
Ctrl+V	Paste the Clipboard contents

[Applying Character Formatting]

Ctrl+B	Apple bold formatting
Ctrl+I	Apply italic formatting
Ctrl+U	Apply underline formatting
Ctrl+D	Open the Font dialog box
Ctrl+[or]	Decrease or increase font size one point at a time
Ctrl+=	Apply subscript formatting
Shift+F3	Cycle through case formats for your text.
Ctrl+Shift+A	Formats all letters as uppercase
Ctrl+Shift+K	Formats all letters as lowercase
Ctrl+Shift+C	Copies the character formatting of a selection
Ctrl+Shift+V	Pastes formatting onto selected text
Ctrl+Space	Removes all manual character formatting from a selection

[Inserting Things]

Shift+Enter	Insert a line break
Ctrl+Enter	Insert a page break
Ctrl+Shift+Enter	Insert a column break
Ctrl+hyphen	Insert an optional hyphen or en dash.
Alt+Ctrl+hyphen	Insert an em dash
Alt+Ctrl+C	Insert a copyright symbol
Alt+Ctrl+R	Insert a registered trademark symbol
Alt+Ctrl+T	Insert a trademark symbol

Comparison of Text Editors

	MS-DOS	VI Editor	MS Word
Creator	Microsoft	Bill Joy	Microsoft
First Public Release	1981	1976	1983
Development	x86 Assembly Language	C	C++
Cost	Part of Windows	Free	₹4,500
Software License	Proprietary	BSD / CDDL	Propriety
Open Source	No	Yes	No
Executable File Size	-	0.64 MB	1.84 MB
User-Interface	Command Line	Command Line	Text / Visual Graphics
Major Use	File System Access	Text Editor	Word Processor
Platforms	X86 Systems	Unix Systems	x86-32, x86-64, ARM Systems
Collaborative Editing	No	Yes (Plugin)	Yes
Large File Support	64 – 300 KB	65 MB	32 MB (Text)
Search in Files	No	Yes	Yes
Macro Language	No	Yes	Yes
Graphical Shell	No	No	Yes