**Assignment – 1**

20INMCA202 / Linux or Unix Fundamentals

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**Text Editors**

∙ A text editor is a software application that allows you to create and modify plain text files.

∙ It can be used for creating computer programs, editing the source code of programming languages, editing hypertext markup language (HTML), and creating web pages or web design templates.

∙ This software is most commonly used today for programming purposes, rather than creating documents, as is was in the past.

∙ Text editors often provide syntax highlighting, which colorizes different elements of code or text according to their syntax (keywords, strings, comments, etc.), making it easier for users to read and understand

∙ Some text editors support code folding, allowing users to collapse and expand sections of code, which can be particularly useful for navigating large files or focusing on specific sections.

**Functions of a Text Editor**

∙ Text editors provide a platform for users to compose and modify text-based content.

∙ They offer tools to format text, including font styles, sizes, colors, and emphasis options like bold and italic.

∙ Particularly useful for programmers, text editors highlight code syntax, making it easier to understand and debug.

∙ Users can quickly locate specific words or phrases within a document and replace them as needed.

∙ Text editors support fundamental editing functions like cut, copy, and paste. ∙ Displaying line numbers and facilitating automatic indentation helps maintain document structure and organization.

**Editors Available in Linux**

∙ **Vi/Vim**: Vi is the default text editor on many Unix-based systems, including Linux. Vim (Vi Improved) is an enhanced version of Vi with additional features and improvements.

∙ : Emacs is a highly customizable text editor with extensive features

| **GNU Emacs** |
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for programming, writing, and more. It includes a built-in Lisp interpreter for further customization.

∙ : Nano is a simple and easy-to-use text editor, ideal for beginners or

| **Nano** |
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users who prefer a straightforward interface. It includes basic editing functions and is similar to Pico.

∙ : Atom is a modern and customizable text editor developed by GitHub. It

| **Atom** |
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is built on web technologies and offers features like smart autocompletion, multiple panes, and a built-in package manager.

∙ : Sublime Text is a powerful and feature-rich text editor known

| **Sublime Text** |
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for its speed, ease of use, and extensive plugin ecosystem. It supports multiple programming languages and offers features like split editing and project management.

**VI Editor**

∙ The vi editor is a text editor commonly found on Unix-based operating systems.

∙ It is known for its powerful yet minimalist interface, offering efficient text editing capabilities.

∙ Vi operates in two main modes: command mode and insert mode. In command mode, users can navigate through the document, perform editing tasks, and execute commands.

∙ Insert mode allows users to input and edit text directly. Vi provides a wide range of features, including search and replace, syntax highlighting, macros, and support for plugins.

∙ Its lightweight design and ubiquity make it a popular choice for both casual users and experienced programmers.

**Commands used in VI Editor**

1. **Navigation**:

∙ **h**: Move the cursor left.

∙ **j**: Move the cursor down.

∙ **k**: Move the cursor up.

∙ **l**: Move the cursor right.

∙ **0** (zero): Move the cursor to the beginning of the current line. ∙ **$**: Move the cursor to the end of the current line.

∙ **gg**: Move the cursor to the beginning of the file.

∙ **G**: Move the cursor to the end of the file.

∙ **<line number>G**: Move the cursor to a specific line number. 2. **Editing**:

∙ **i**: Enter insert mode before the cursor.

∙ **a**: Enter insert mode after the cursor.

∙ **o**: Open a new line below the current line and enter insert mode. ∙ **O**: Open a new line above the current line and enter insert mode. ∙ **x**: Delete the character under the cursor.

∙ **dd**: Delete the current line.

∙ **yy**: Yank (copy) the current line.

∙ **p**: Paste the yanked text after the cursor.

∙ **P**: Paste the yanked text before the cursor.

3. **Search and Replace**:

∙ **/**: Search forward for a pattern.

∙ **?**: Search backward for a pattern.

∙ **n**: Repeat the last search in the same direction.

∙ **N**: Repeat the last search in the opposite direction.

∙ **:s/pattern/replace/**: Replace the first occurrence of a pattern with another text.

∙ **:%s/pattern/replace/g**: Replace all occurrences of a pattern with another text.

4. **Saving and Exiting**:

∙ **:w**: Save the changes (write).

∙ **:q**: Quit the editor if no changes have been made.

∙ **:q!**: Quit the editor without saving changes.

∙ **:wq** or **ZZ**: Save the changes and quit the editor.

5. **Other**:

∙ **u**: Undo the last change.

∙ **Ctrl + r**: Redo the last undone change.

∙ **.**: Repeat the last change.

∙ **:set number**: Display line numbers.

∙ **:set nonumber**: Hide line numbers.

∙ **:help**: Open Vi help.