NORTHERN UNIVERSITY

Knowledge for Innovation and Change

COURSE TITLE: OPERATING SYSTEM LAB WORK
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REPORT ON: IMPLEMENTATION OF LINUX COMMANDS

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Lab Report: Implementing Linux Commands

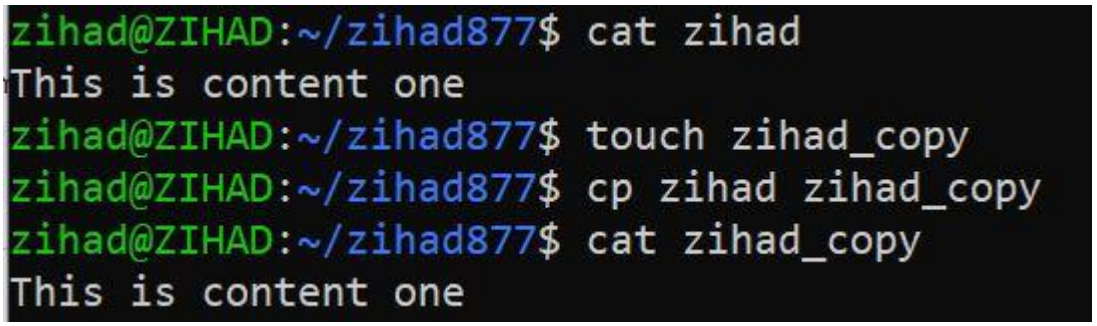
Introduction

Linux provides various commands and features to handle system tasks efficiently. In this lab, we will explore how to copy file content, clear file content, remove text, use variables, take input, and perform arithmetic operations. These commands help in scripting and automating tasks.

Commands for File and Variable Management

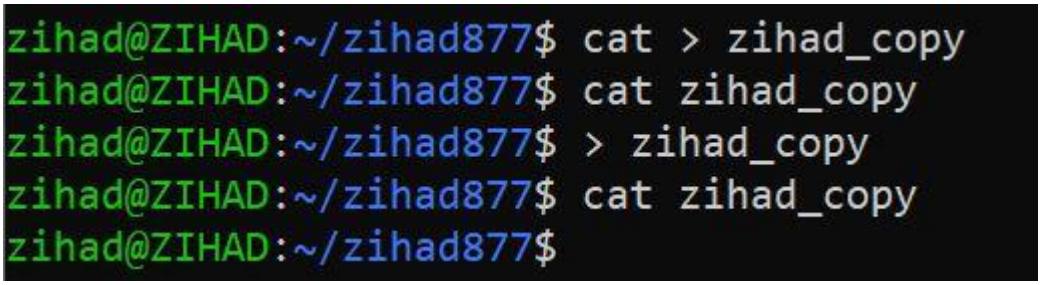
1. Copy One File Content to Another

- **Function:** Copies content from one file to another.
- **Description:** The `cp` command is used to copy the content of one file to another. The syntax is:
  cp source_file destination_file
  This command helps in creating backups or duplicating files.



2. Clear File Content

- **Function:** Removes all content from a file without deleting it.
- **Description:** To clear a file's content, use:
  > filename
  This command keeps the file but removes its contents.

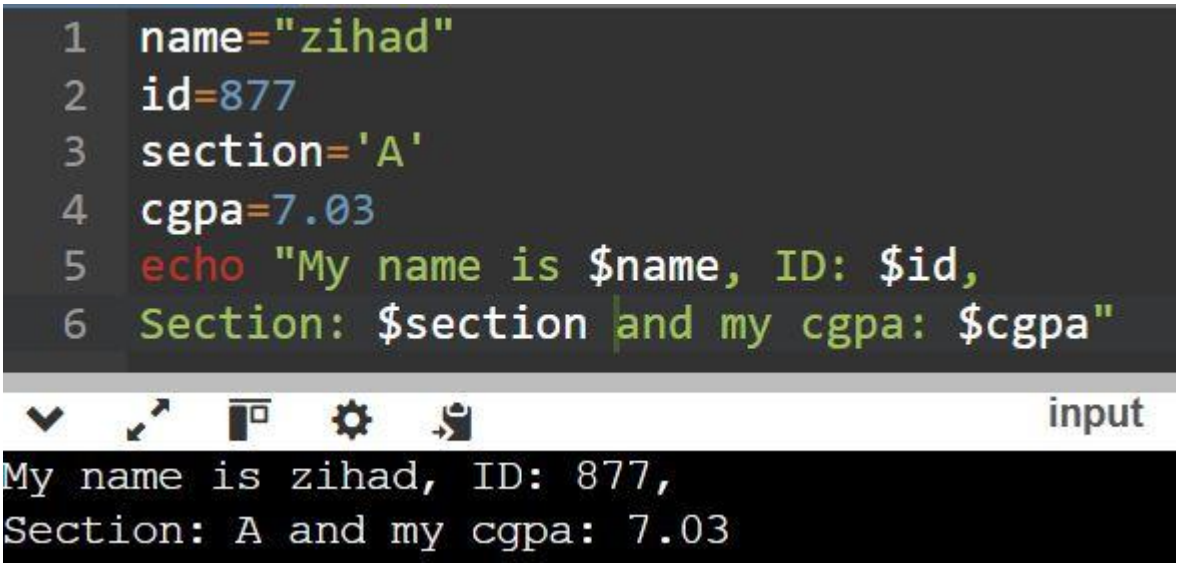


3. Variables & Print (int, float, char, string)

- **Function:** Stores and prints different types of data.

Description: Variables can store integer, float, character, or string values. Example usage:
Int_var=10
float_var=10.5
char_var='A'
string_var="Hello"

- echo "Integer: $int_var, Float: $float_var, Char: $char_var, String: $string_var"
  This command prints different types of variables.



4. Take Input & Print (int, float, char, string)

- **Function:** Takes user input and prints it.

Description: The `read` command is used to take input from users. Example:
read -p "Enter an integer: " int_var
read -p "Enter a float: " float_var
read -p "Enter a character: " char_var
read -p "Enter a string: " string_var

- echo "Integer: $int_var, Float: $float_var, Char: $char_var, String: $string_var"
  This command helps in interactive scripts where user input is required.

```
1  echo "Enter your name : "
2  read name
3  echo "Enter you ID : "
4  read id
5  echo "Enter you section : "
6  read section
7  echo "Enter you CGPA : "
8  read cgpa
9  echo "My name is $name, ID: $id,
10 Section: $section and my cgpa: $cgpa"
```

input

```
Enter your name :
zobaer ahmed zihad
Enter you ID :
41230100877
Enter you section :
A
Enter you CGPA :
4.95
My name is zobaer ahmed zihad, ID: 41230100877,
Section: A and my cgpa: 4.95
```

5. Arithmetic Operations (Addition, Subtraction, Multiplication, Division)

- **Function:** Performs basic arithmetic calculations.

Description: The `expr` or `$(( ))` syntax is used to perform arithmetic operations in Linux.
Example:

```
read -p "Enter first number: " num1
read -p "Enter second number: " num2
add=$((num1 + num2))
sub=$((num1 - num2))
mul=$((num1 * num2))
div=$((num1 / num2))
```

- echo "Addition: $add, Subtraction: $sub, Multiplication: $mul, Division: $div"
  This command performs arithmetic operations on user inputs and prints the results.

```
read a
read b
sum=$((a+b))
echo " Total sum is : $sum"
sub=$((a-b))
echo " Subtraction is : $sub"
mul=$((a*b))
echo " Multiplication : $mul"
div=$((a/b))
echo " Division is : $div"
```

```
10
5
Total sum is : 15
Subtraction is : 5
Multiplication : 50
Division is : 2
```

Discussion

Using file management commands like `cp` and redirection helps in organizing files effectively. Variables allow storing and manipulating different data types, and user input commands make shell scripting interactive. Arithmetic operations are essential for calculations and automation in Linux scripting. These commands are crucial for automation and scripting tasks in Linux.

Conclusion

In this lab, we learned about copying files, clearing content, removing text, using variables, and taking input in Linux. Mastering these basic commands helps in scripting and managing tasks efficiently. Practicing these commands will improve your ability to interact with the Linux terminal effectively.