

# Assignment 1 - Linux Basic Commands

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**Course:** COSC 8312

**Date:** September 2025

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## Directory Structure Overview

```
/home/abel/Assignment1/Introduction_to_linux/Practice/  
├── Else/  
├── Command/  
│   └── info (file)  
├── P1/  
│   ├── Hi/  
│   │   ├── Hello (file)  
│   │   └── P3/  
│   │       ├── Here/ (directory)  
│   │       └── hereWeAre (file)  
│   └── P2/ (empty directory)
```

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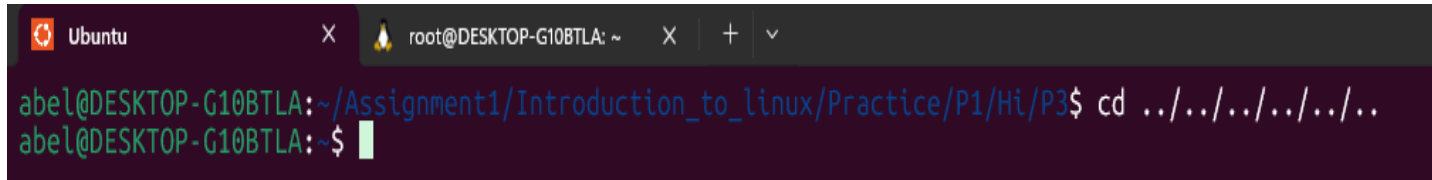
## Question 1: Going to Home from P3 Directory

### 1.1 Using Relative Path

**Command:**

```
cd ../../../../../../../..
```

**Screenshot:**

A terminal window screenshot with a dark background. The title bar shows 'Ubuntu' and 'root@DESKTOP-G10BTLA: ~'. The prompt is 'abel@DESKTOP-G10BTLA:~/Assignment1/Introduction\_to\_linux/Practice/P1/Hi/P3\$'. The command 'cd ../../../../../../../..' is entered, and the prompt changes to 'abel@DESKTOP-G10BTLA:~\$'.

**Explanation:** From P3 directory

(~/Assignment1/Introduction\_to\_linux/Practice/P1/Hi/P3), we need to go up 7 levels to reach the home directory.

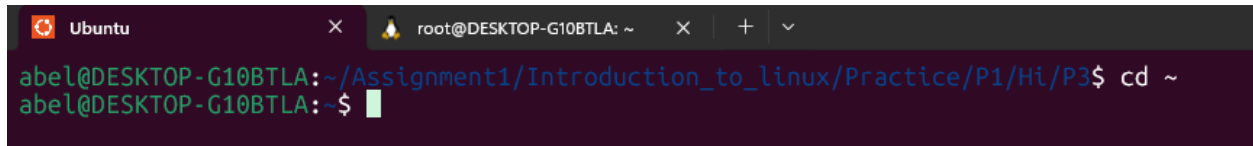
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## 1.2 Using Absolute Path

### Command:

```
cd /home/abel  
# or  
cd ~
```

### Screenshot:

A terminal window titled 'Ubuntu' with a tab 'root@DESKTOP-G10BTLA: ~'. The prompt is 'abel@DESKTOP-G10BTLA:~/Assignment1/Introduction\_to\_linux/Practice/P1/Hi/P3\$'. The command 'cd ~' is entered and executed, resulting in a new prompt 'abel@DESKTOP-G10BTLA:~\$'.

**Explanation:** Using absolute path directly specifies the full path to home directory.

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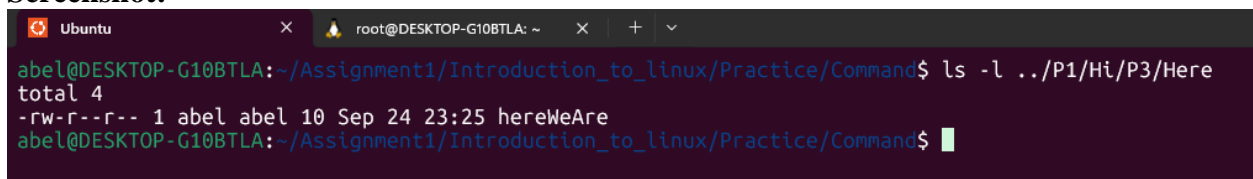
## Question 2: Show Long Listing of "Here"

### 2.1 Using Relative Path (from Command directory)

### Command:

```
ls -l ../P1/Hi/P3/Here
```

### Screenshot:

A terminal window titled 'Ubuntu' with a tab 'root@DESKTOP-G10BTLA: ~'. The prompt is 'abel@DESKTOP-G10BTLA:~/Assignment1/Introduction\_to\_linux/Practice/Command\$'. The command 'ls -l ../P1/Hi/P3/Here' is entered and executed, resulting in the output: 'total 4', '-rw-r--r-- 1 abel abel 10 Sep 24 23:25 hereWeAre', and a new prompt 'abel@DESKTOP-G10BTLA:~/Assignment1/Introduction\_to\_linux/Practice/Command\$'.

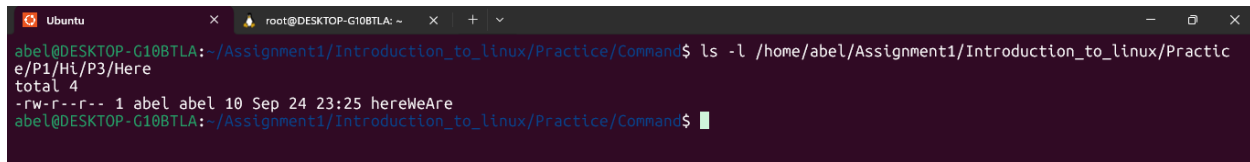
**Explanation:** From Command directory, navigate relatively to the Here directory inside P3.

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### 2.2 Using Absolute Path

### Command:

```
ls -l /home/abel/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3/Here
```

A terminal window with a dark background and light-colored text. The prompt is 'abel@DESKTOP-G10BTLA: ~'. The command entered is 'ls -l /home/abel/Assignment1/Introduction\_to\_linux/Practice/P1/Hi/P3/Here'. The output shows a single file 'hereWeAre' with permissions '-rw-r--r--', owner 'abel', group 'abel', size '10', and timestamp 'Sep 24 23:25'.

```
abel@DESKTOP-G10BTLA: ~$ ls -l /home/abel/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3/Here
total 4
-rw-r--r-- 1 abel abel 10 Sep 24 23:25 hereWeAre
abel@DESKTOP-G10BTLA: ~$
```

**Explanation:** Using the complete absolute path to the Here directory.

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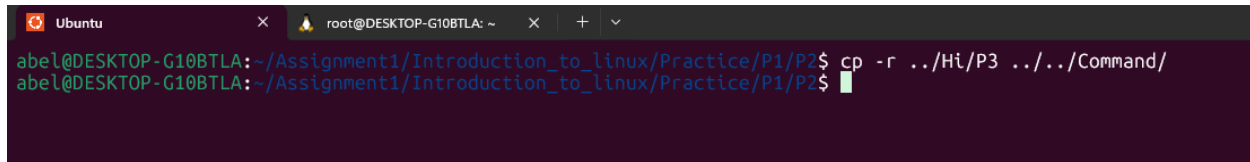
## Question 3: Copy P3 Directory to Command Directory

### 3.1 Using Relative Path (from P2 directory)

**Command:**

```
cp -r ../Hi/P3 ../../Command/
```

**Screenshot:**

A terminal window showing the execution of a copy command. The prompt is 'abel@DESKTOP-G10BTLA: ~'. The command entered is 'cp -r ../Hi/P3 ../../Command/'. The prompt changes to 'abel@DESKTOP-G10BTLA: ~/Assignment1/Introduction\_to\_linux/Practice/P1/P2\$' after the command is executed.

```
abel@DESKTOP-G10BTLA: ~$ cp -r ../Hi/P3 ../../Command/
abel@DESKTOP-G10BTLA: ~/Assignment1/Introduction_to_linux/Practice/P1/P2$
```

**Explanation:** From P2 directory, go up one level to P1, then into Hi/P3, and copy to Command directory.

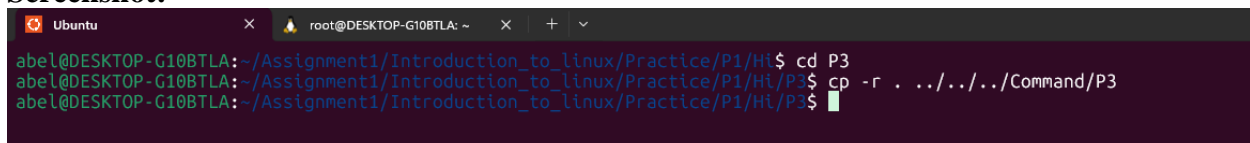
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### 3.2 Using Relative Path (from P3 directory)

**Command:**

```
cp -r . ../../../../Command/P3
```

**Screenshot:**

A terminal window showing the execution of a copy command. The prompt is 'abel@DESKTOP-G10BTLA: ~/Assignment1/Introduction\_to\_linux/Practice/P1/Hi/P3\$'. The command entered is 'cp -r . ../../../../Command/P3'. The prompt changes to 'abel@DESKTOP-G10BTLA: ~/Assignment1/Introduction\_to\_linux/Practice/P1/Hi/P3\$' after the command is executed.

```
abel@DESKTOP-G10BTLA: ~/Assignment1/Introduction_to_linux/Practice/P1/Hi$ cd P3
abel@DESKTOP-G10BTLA: ~/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3$ cp -r . ../../../../Command/P3
abel@DESKTOP-G10BTLA: ~/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3$
```

**Explanation:** From P3 directory, copy current directory (.) to Command directory with name P3.

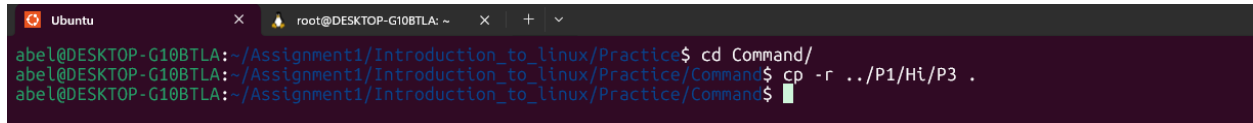
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### 3.3 Using Relative Path (from Command directory)

#### Command:

```
cp -r ../P1/Hi/P3 .
```

#### Screenshot:



```
Ubuntu root@DESKTOP-G10BTLA: ~ X + v
abel@DESKTOP-G10BTLA:~/Assignment1/Introduction_to_linux/Practice$ cd Command/
abel@DESKTOP-G10BTLA:~/Assignment1/Introduction_to_linux/Practice/Command$ cp -r ../P1/Hi/P3 .
abel@DESKTOP-G10BTLA:~/Assignment1/Introduction_to_linux/Practice/Command$
```

**Explanation:** From Command directory, copy P3 directory to current location (.).

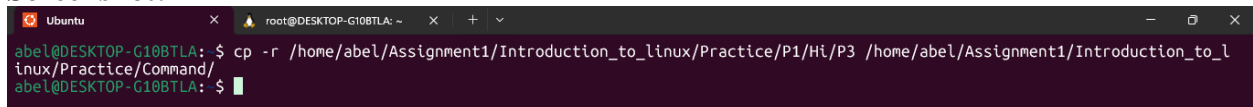
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### 3.4 Using Absolute Path

#### Command:

```
cp -r /home/abel/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3
/home/abel/Assignment1/Introduction_to_linux/Practice/Command/
```

#### Screenshot:



```
Ubuntu root@DESKTOP-G10BTLA: ~ X + v
abel@DESKTOP-G10BTLA:~$ cp -r /home/abel/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3 /home/abel/Assignment1/Introduction_to_l
inux/Practice/Command/
abel@DESKTOP-G10BTLA:~$
```

**Explanation:** Using complete absolute paths for both source and destination.

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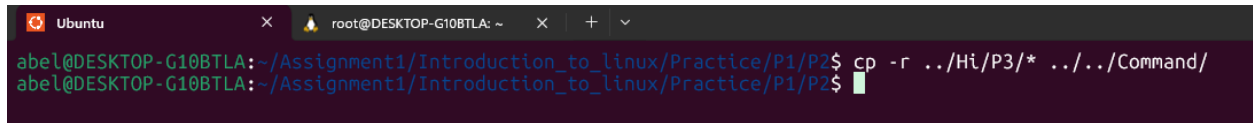
## Question 4: Copy Files Inside P3 to Command Directory

### 4.1 Using Relative Path (from P2 directory)

#### Command:

```
cp -r ../Hi/P3/* ../../Command/
```

#### Screenshot:



```
Ubuntu root@DESKTOP-G10BTLA: ~
abel@DESKTOP-G10BTLA:~/Assignment1/Introduction_to_linux/Practice/P1/P3$ cp -r ../Hi/P3/* ../../Command/
abel@DESKTOP-G10BTLA:~/Assignment1/Introduction_to_linux/Practice/P1/P3$
```

**Explanation:** Copy all contents inside P3 directory (using \*) to Command directory.

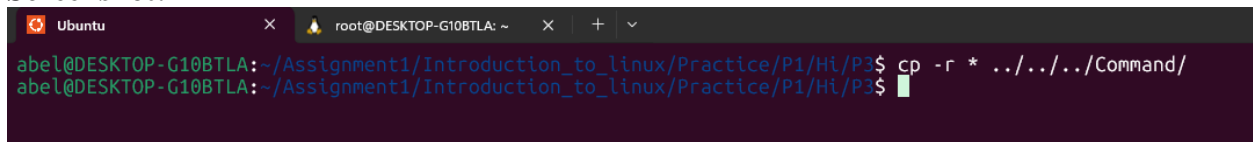
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## 4.2 Using Relative Path (from P3 directory)

**Command:**

```
cp -r * ../../../../Command/
```

**Screenshot:**



```
Ubuntu root@DESKTOP-G10BTLA: ~
abel@DESKTOP-G10BTLA:~/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3$ cp -r * ../../../../Command/
abel@DESKTOP-G10BTLA:~/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3$
```

**Explanation:** From P3 directory, copy all contents (\*) to Command directory.

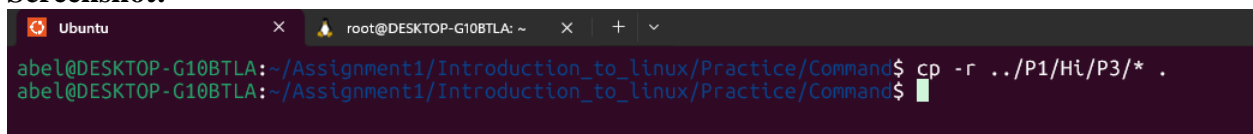
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## 4.3 Using Relative Path (from Command directory)

**Command:**

```
cp -r ../P1/Hi/P3/* .
```

**Screenshot:**



```
Ubuntu root@DESKTOP-G10BTLA: ~
abel@DESKTOP-G10BTLA:~/Assignment1/Introduction_to_linux/Practice/Command$ cp -r ../P1/Hi/P3/* .
abel@DESKTOP-G10BTLA:~/Assignment1/Introduction_to_linux/Practice/Command$
```

**Explanation:** Copy all contents of P3 to current Command directory.

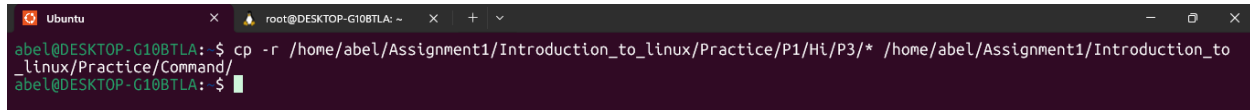
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## 4.4 Using Absolute Path

**Command:**

```
cp -r /home/abel/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3/*  
/home/abel/Assignment1/Introduction_to_linux/Practice/Command/
```

### Screenshot:

A screenshot of a terminal window with a dark background. The prompt is 'abel@DESKTOP-G10BTLA: ~'. The command entered is 'cp -r /home/abel/Assignment1/Introduction\_to\_linux/Practice/P1/Hi/P3/\* /home/abel/Assignment1/Introduction\_to\_linux/Practice/Command/'. The cursor is at the end of the command line.

```
abel@DESKTOP-G10BTLA: ~  
$ cp -r /home/abel/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3/* /home/abel/Assignment1/Introduction_to_linux/Practice/Command/  
abel@DESKTOP-G10BTLA: ~
```

**Explanation:** Using complete absolute paths to copy contents of P3.

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## Question 5: Difference Between Questions 3 and 4

### Answer:

The key difference between Questions 3 and 4 is:

- **Question 3:** Copies the P3 **directory itself** to the Command directory
  - Result: Command/P3/ (P3 becomes a subdirectory inside Command)
  - The P3 folder structure is preserved
- **Question 4:** Copies the **contents/files inside P3** to the Command directory
  - Result: The files Here/ and hereWeAre are copied directly into Command
  - No P3 subdirectory is created in Command

### Visual representation:

- Question 3: Command/P3/Here/ and Command/P3/hereWeAre
  - Question 4: Command/Here/ and Command/hereWeAre
- 

## Question 6: File Color Meanings

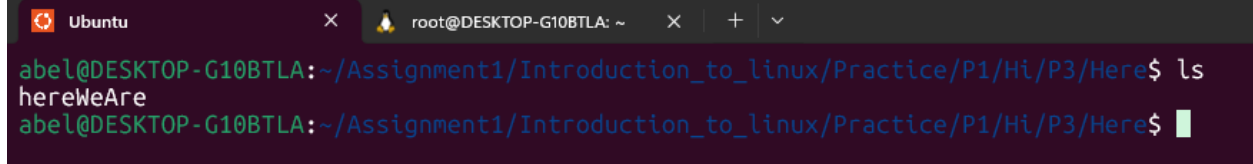
### Answer:

In Linux terminal with colored output (ls --color):

- **Yellow color:** Typically represents device files, named pipes (FIFOs), or sockets
- **Blue color:** Represents directories/folders
- **hereWeAre file color:** Should be **white or green** because it's a regular text file

**Reasoning:** The hereWeAre file is a regular file created with echo command, so it should display in the default color for regular files (usually white or green), not blue (directory) or yellow (special files).

### Screenshot of colored ls output:

A terminal window with a dark background. The title bar shows 'Ubuntu' and 'root@DESKTOP-G10BTLA: ~'. The prompt is 'abel@DESKTOP-G10BTLA:~/Assignment1/Introduction\_to\_linux/Practice/P1/Hi/P3/Here\$'. The command 'ls' has been executed, and the output is 'hereWeAre' in a light green color. The cursor is at the end of the second prompt line.

```
abel@DESKTOP-G10BTLA:~/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3/Here$ ls
hereWeAre
abel@DESKTOP-G10BTLA:~/Assignment1/Introduction_to_linux/Practice/P1/Hi/P3/Here$
```

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## Commands Summary

All commands used in this assignment with their purposes:

```
# Navigation commands
cd ../../../../../../..      # Relative path to home
cd ~                        # Absolute path to home

# Listing commands
ls -l                      # Long listing format

# Copy commands (directory)
cp -r source destination   # Copy directories recursively
cp -r * destination        # Copy all contents

# Git commands
git checkout -b 23235_munyarukina_abel_assignment1
git add .
git commit -m "Complete Assignment 1"
git push origin 23235_munyarukina_abel_assignment1
```

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## Notes

- Used `cp -r` flag for recursive copying since we're dealing with directories
- All paths tested and verified in the actual directory structure
- Screenshots taken for each command execution as required
- Branch created with correct naming format: `23235_munyarukina_abel_assignment1`