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Class: KHTN2021

OPERATING SYSTEM
LAB 2'S REPORT

SUMMARY

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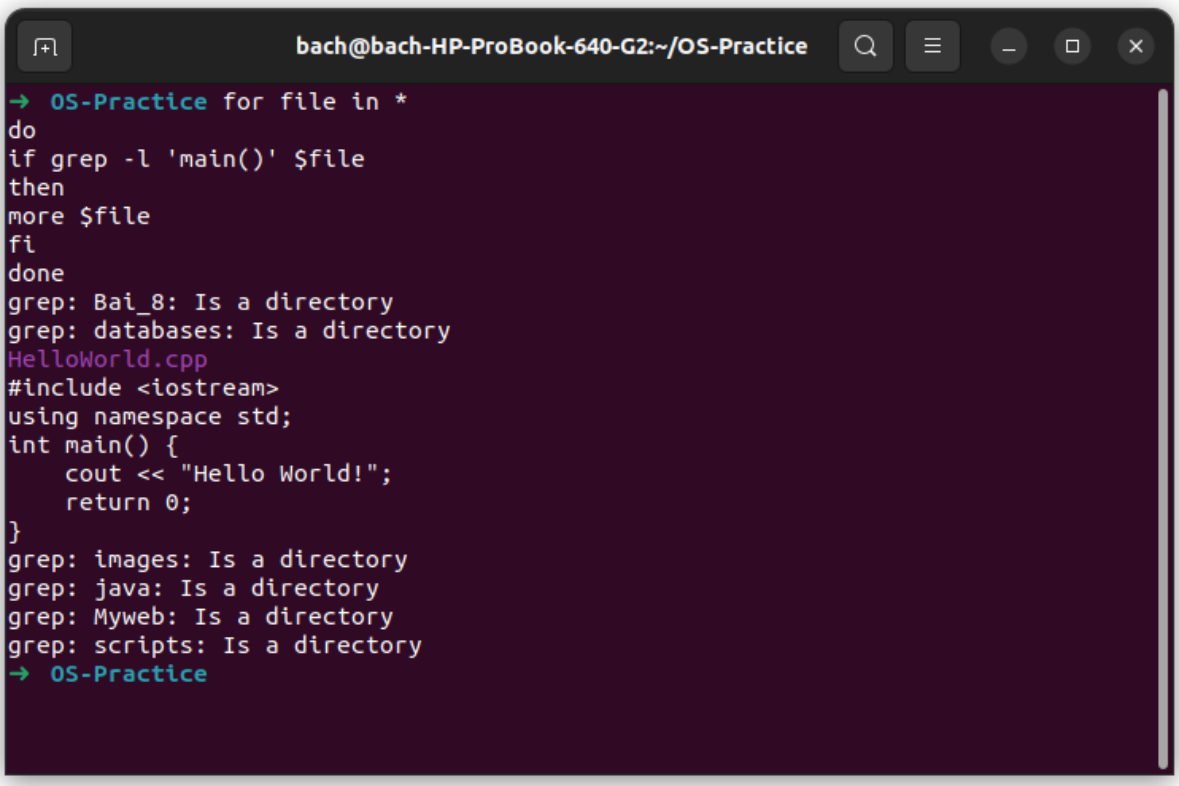
Note: Export file to **PDF and name the file by following format:*
LAB X – <Student ID>.pdf

Section 2.4

2.4.1. Using shell like a programming language

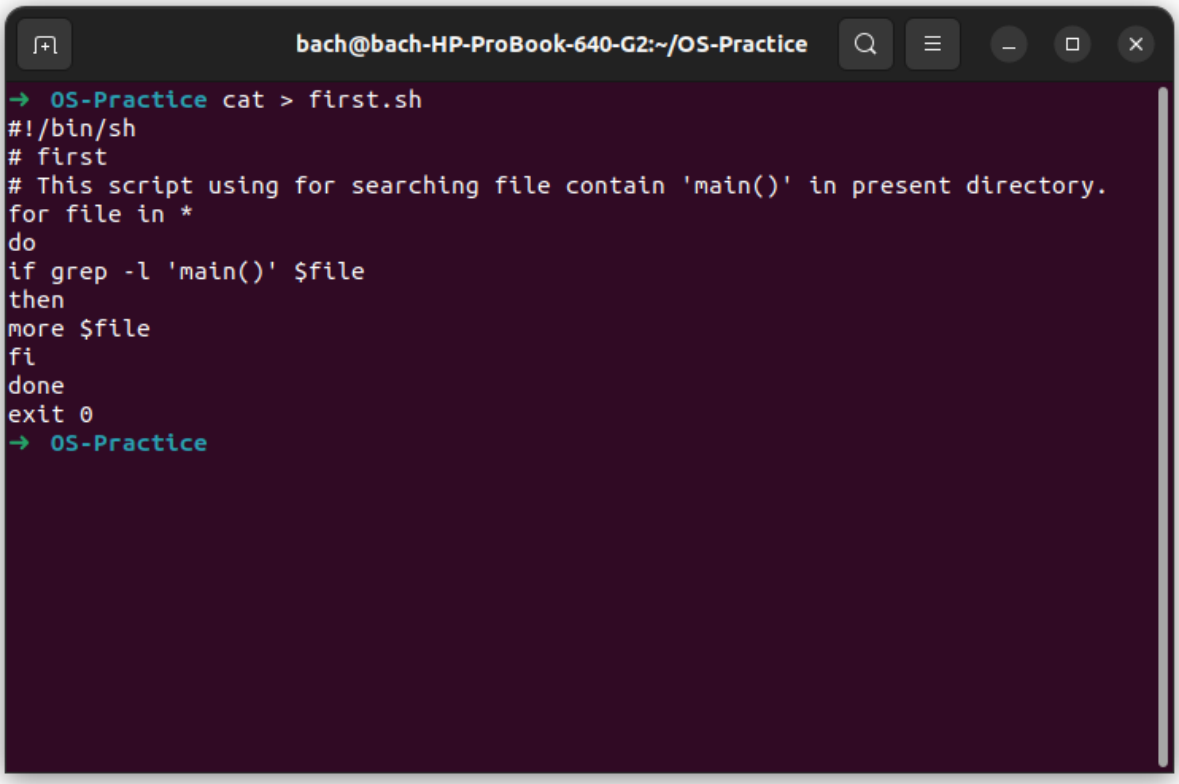
2.4.1.1. Using shell from cmd

- The following picture showing how to use shell to search file contain ‘main()’ in present directory:



2.4.1.2. Using shell from script file

- The following picture represent the script that have the same usage with the commands in 2.4.1 section:



2.4.1.3. Execute script

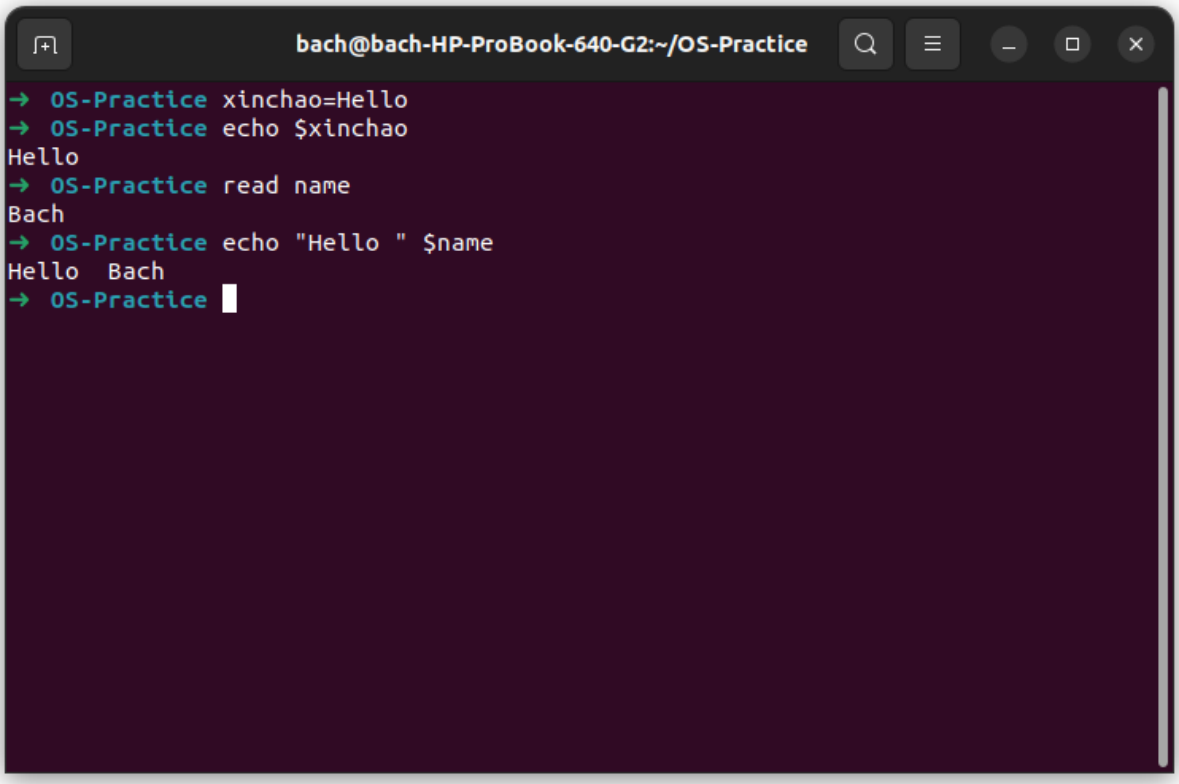
- Using chmod command to make first.sh excuteable.
- Run file first.sh

```
bach@bach-HP-ProBook-640-G2:~/OS-Practice
➜ OS-Practice chmod +x first.sh
➜ OS-Practice ./first.sh
grep: Bai_8: Is a directory
HelloWorld.cpp
#include <iostream>
using namespace std;
int main() {
    cout << "Hello World!";
    return 0;
}
grep: Myweb: Is a directory
grep: databases: Is a directory
first.sh
#!/bin/sh
# first
# This script using for searching file contain 'main()' in present directory.
for file in *
do
if grep -l 'main()' $file
then
more $file
fi
done
exit 0
```

2.4.2. Shell syntax

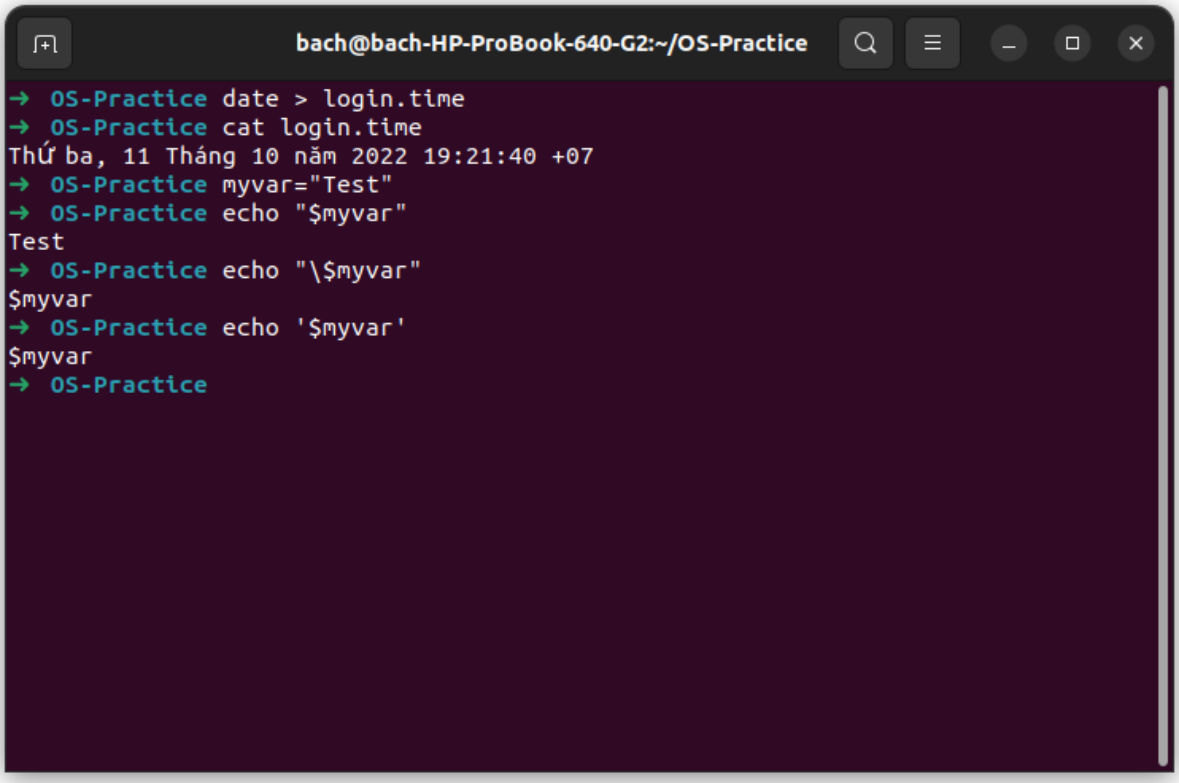
2.4.2.1. Using variables

- Set variable xinchao value “Hello”
- Print value of variable xinchao using echo command.
- Using read command to get the input from the user.
- Print out the “Hello “ $name



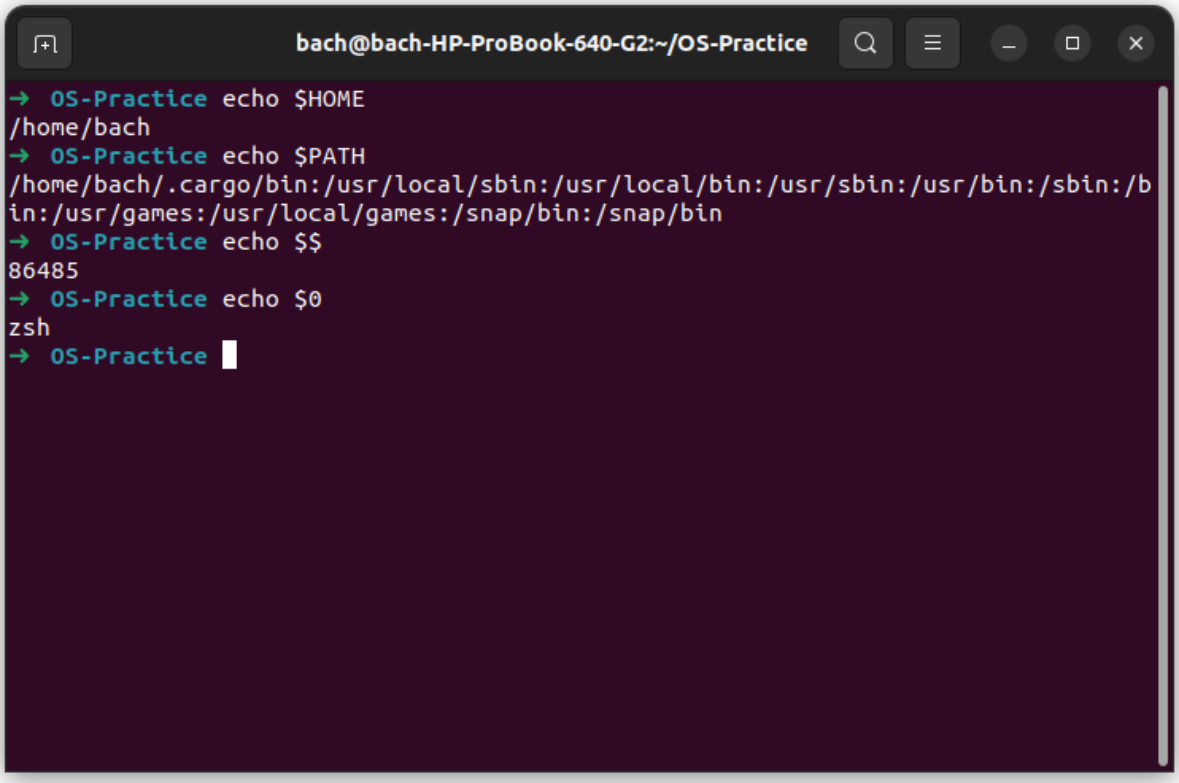
2.4.2.2. Metacharacters of shell

- Using operate “>” to redirect output of date command(which provide present time) to login.time file
- As you can see variable in “” can be get value with prefix $ and disable that ability with / before $.
- ‘’ is stronger than “” that it can not get value of variable.



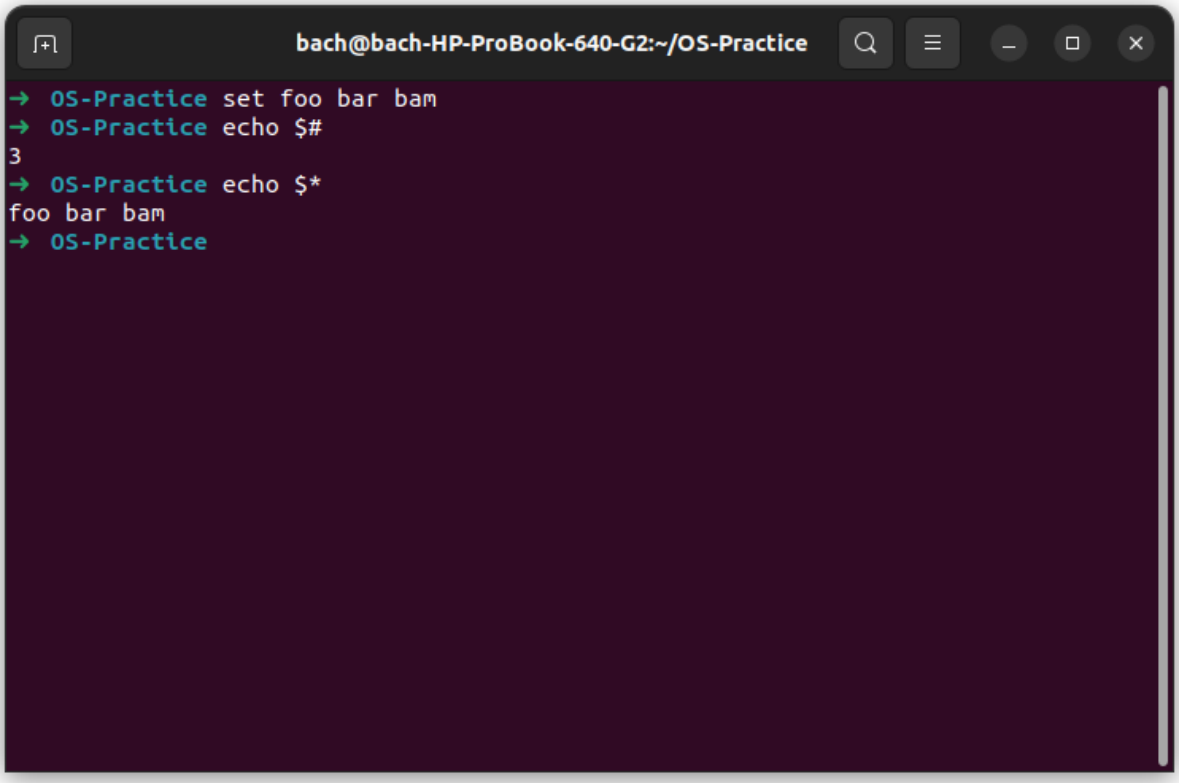
2.4.2.3. Environment variables

- Enviroment variables
  - $HOME contain value of home directory.
  - $PATH contain list of directory separate by “:”.
  - $0 contain name of program cmd.
  - $$ contain process id.



2.4.2.4. Parameter Variables

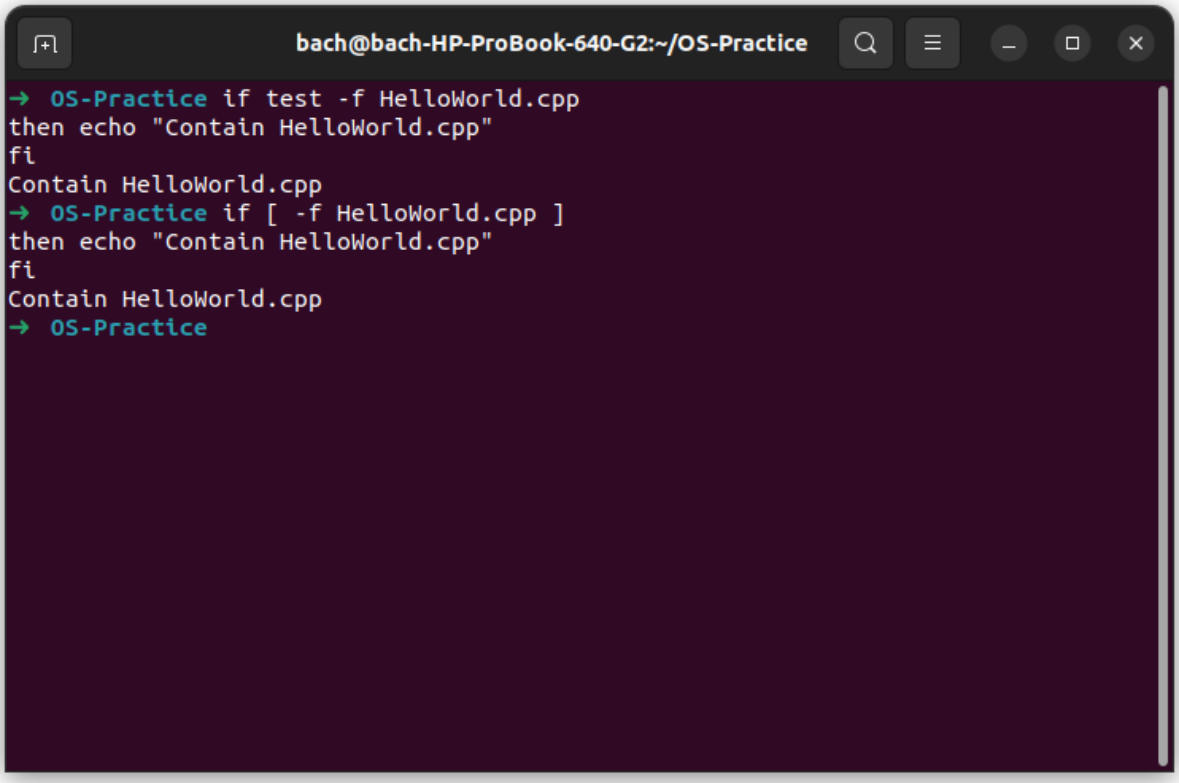
- Set 3 parameters variables foo, bar, bam.
- S# return the number of parameter variables.
- List all parameter variables on the screen using $* anbd echo command.



2.4.3. Condition Structure.

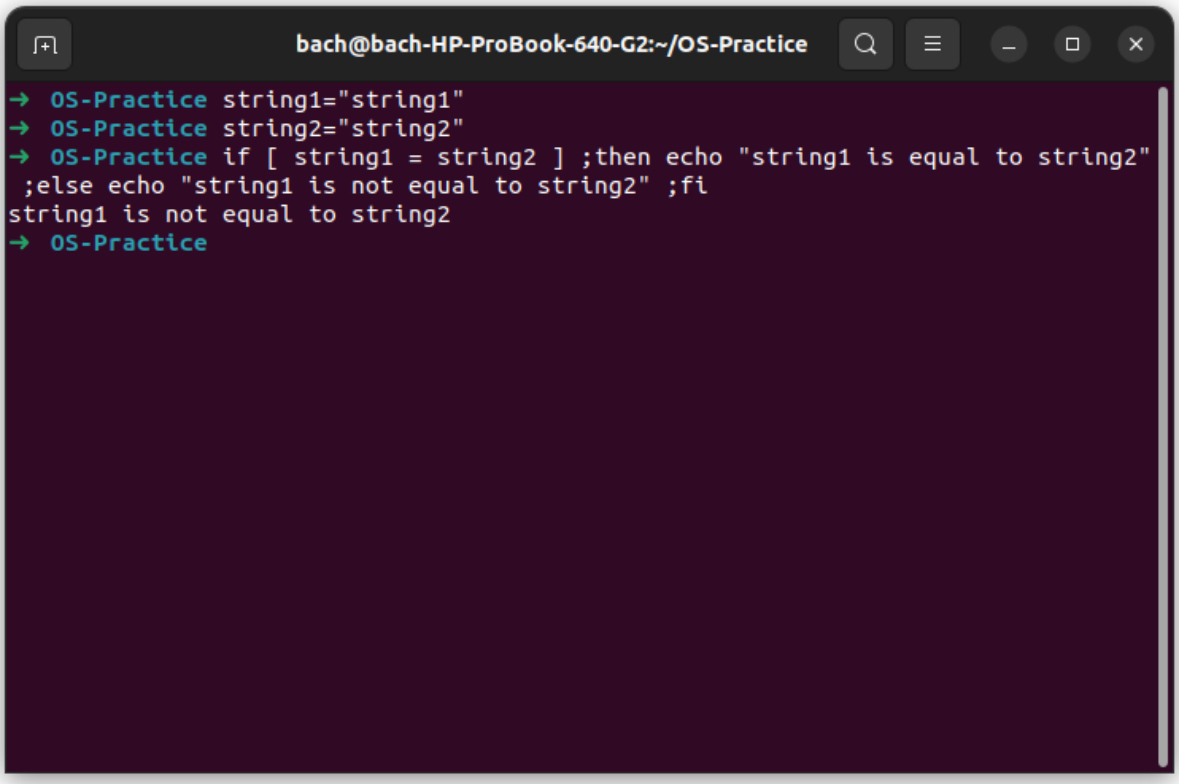
2.4.3.1. test command or [].

- Using test command with flag -f to check HelloWorld.cpp file exist or not.
- Using [] instead of test with same usage.



2.4.3.2. Compare number and string

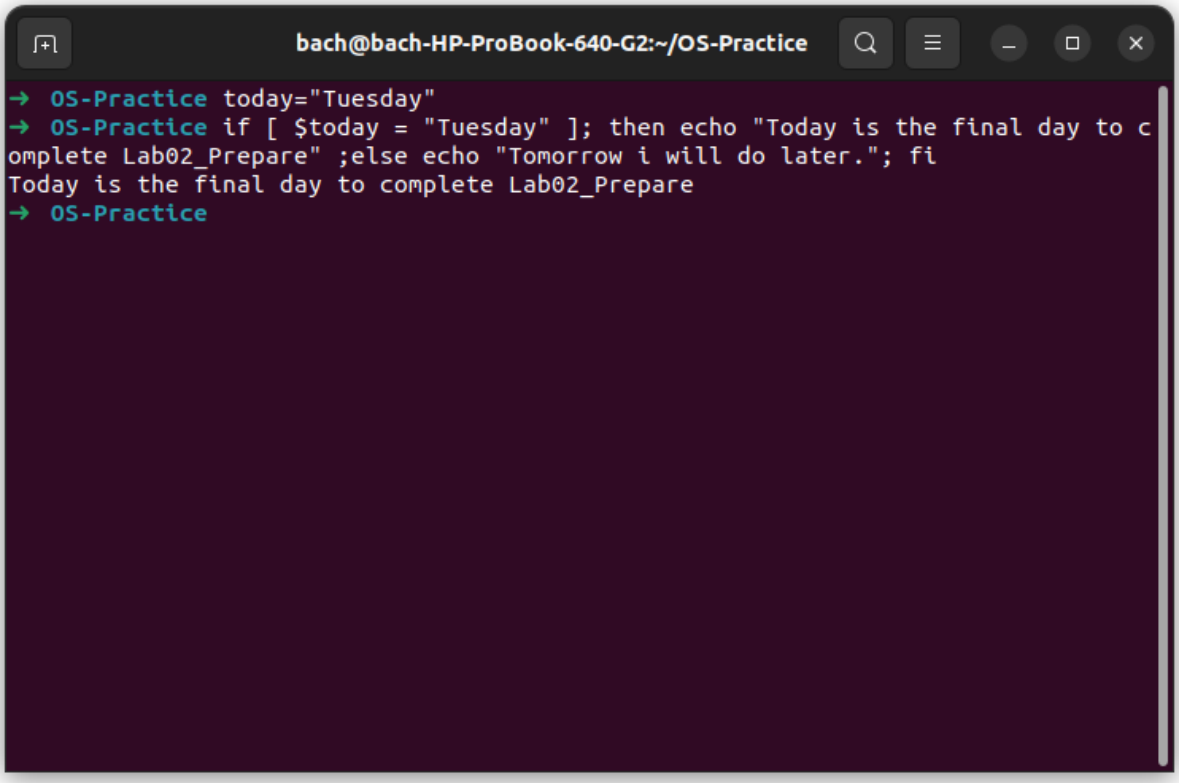
- set variable string1 to “string1”
- set variable string2 to “string2”
- using if to check value contained in two variables are different or not.



2.4.4. Control Structure

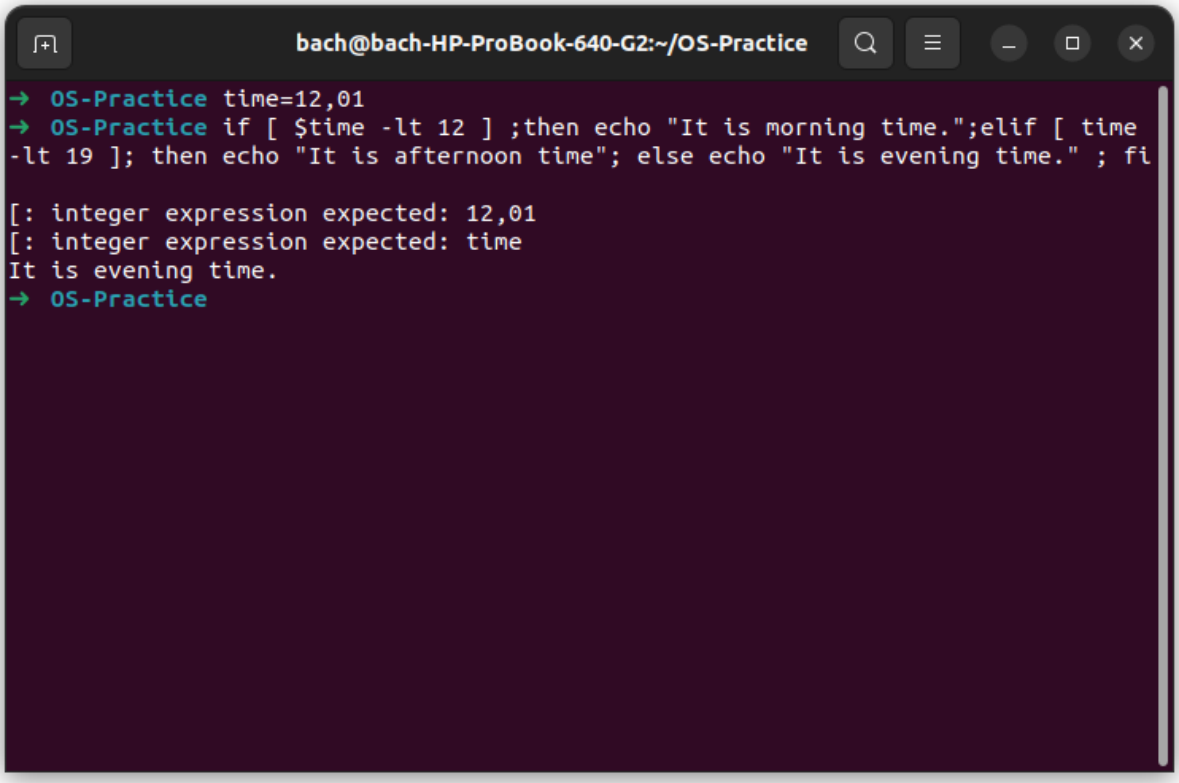
2.4.4.1. if command

- set variable today equal to “Tuesday”.
- using if command to check is today Tuesday or not.



2.4.4.2. elif command

- set variable time equals to 12,01
- if time < 12 then it is morning time.
- elif time < 19 then it is afternoon time.
- else it is evening time.

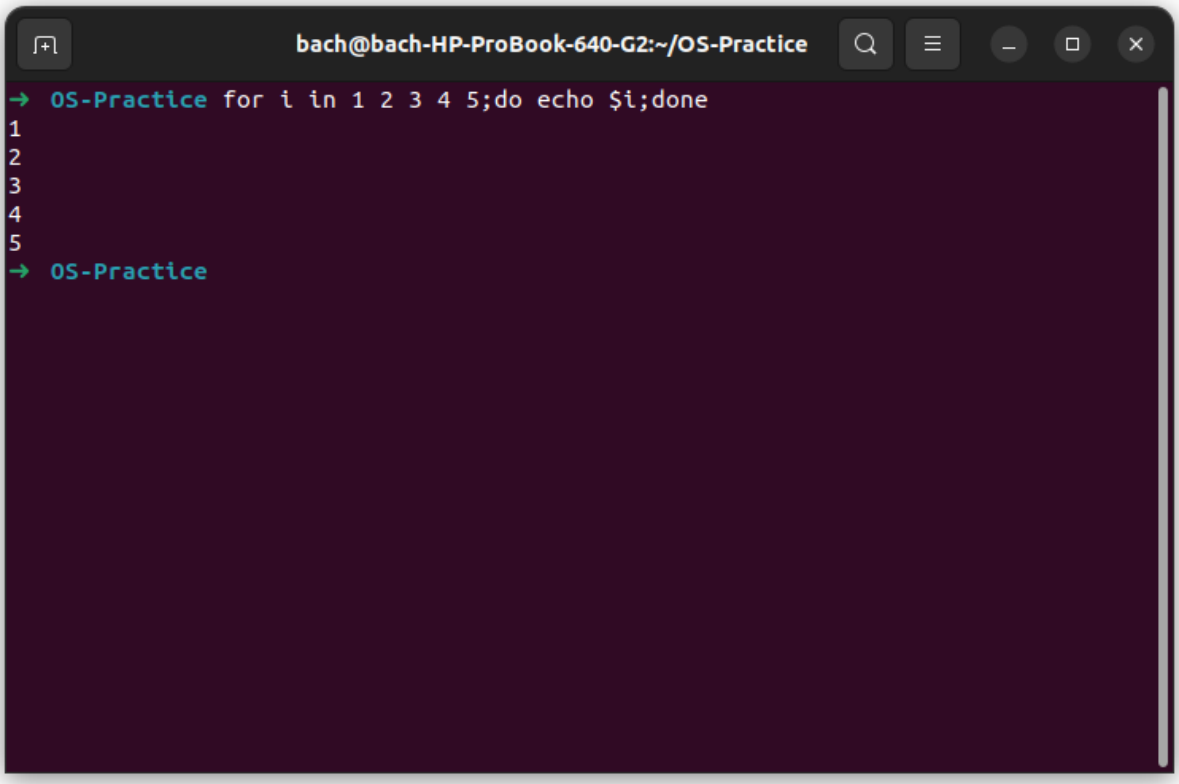


2.4.4.3. Problems with variables

- while using read command to take input to user there is a case that user input an empty string so that the operation of if command will get trouble.

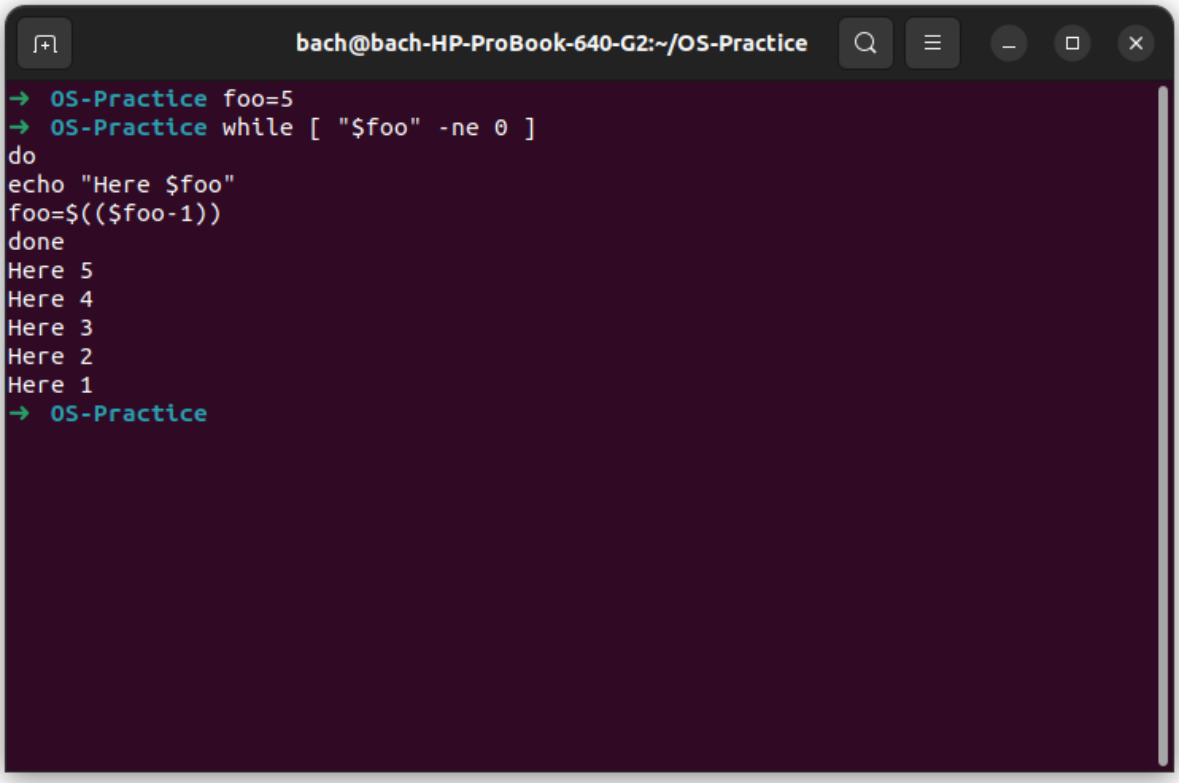
2.4.4.4. for command

- using for variable i to iterate over all value from 1 to 5.
- Then print out the screen using echo.



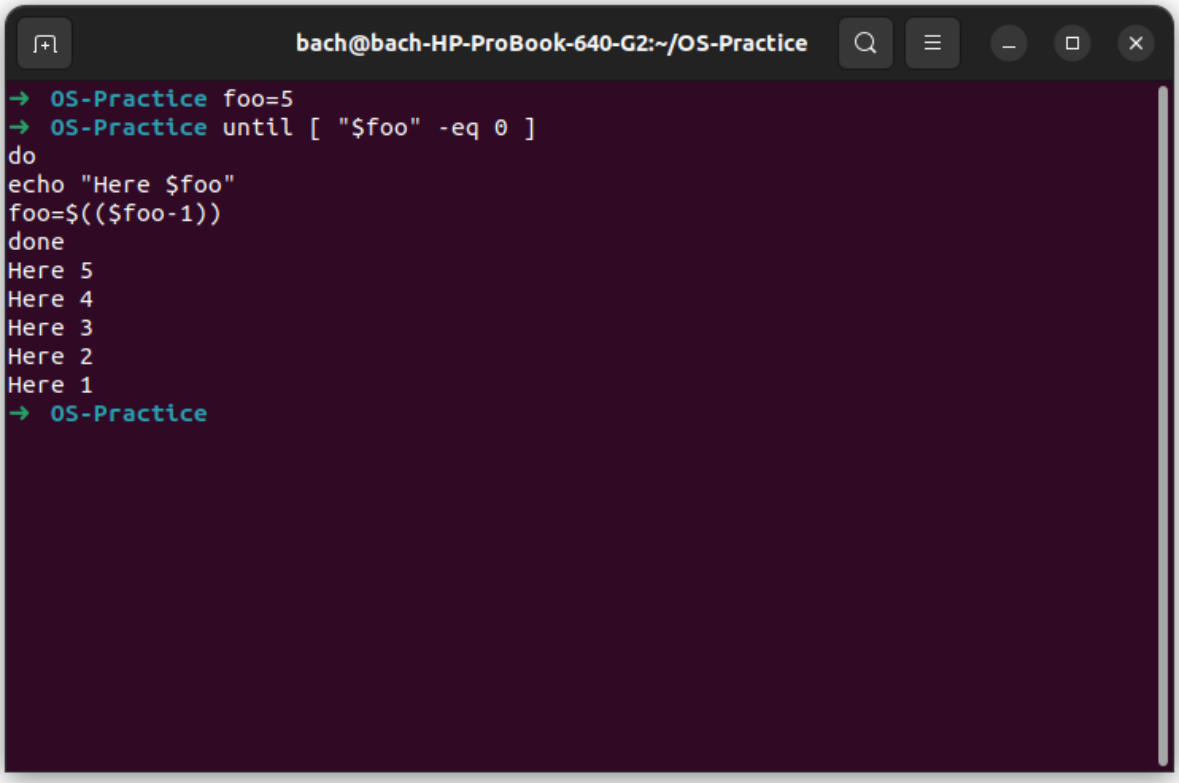
2.4.4.5. while command

- set variable foo equals to 5
- if foo is not equals to 0 print out Here $foo
- Subtract foo by 1 then again.



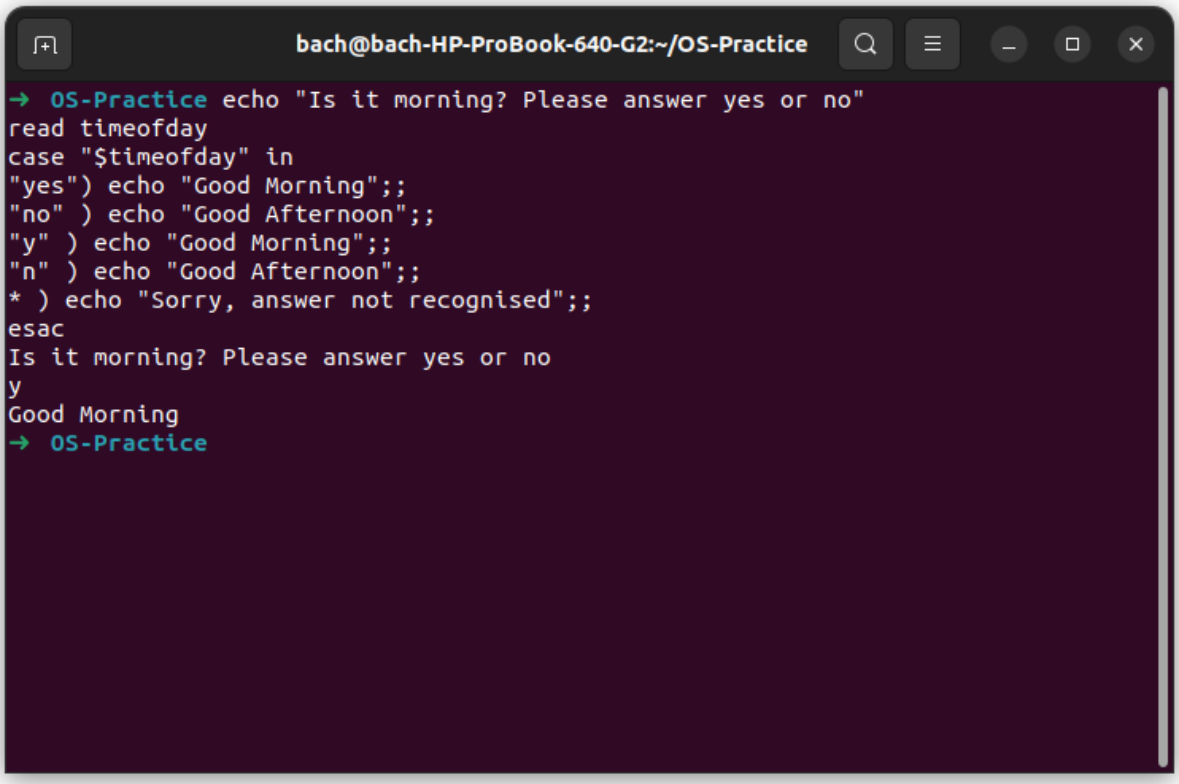
2.4.4.6. until command

- Using same method example in 2.4.4.5 but now we using until command



2.4.4.7. case command

- Using read command to get the input of timeofday variable.
- Due to what user input the program will answer difference.


bach@bach-HP-ProBook-640-G2:~/OS-Practice
→ OS-Practice echo "Is it morning? Please answer yes or no"
read timeofday
case "$timeofday" in
"yes") echo "Good Morning";;
"no") echo "Good Afternoon";;
"y") echo "Good Morning";;
"n") echo "Good Afternoon";;
*) echo "Sorry, answer not recognised";;
esac
Is it morning? Please answer yes or no
y
Good Morning
→ OS-Practice