# Lab 8

1. 
```
trantuanthinh@ScorpioKid:~$ pwd
/home/trantuanthinh
trantuanthinh@ScorpioKid:~$ mkdir CSE306
trantuanthinh@ScorpioKid:~$ ls
CSE306
trantuanthinh@ScorpioKid:~$
```
2. 
3. 
```
trantuanthinh@ScorpioKid:~$ ln -s ~/CSE306 ~/Desktop
trantuanthinh@ScorpioKid:~$ ls
CSE306  Desktop
trantuanthinh@ScorpioKid:~$ cd Desktop/
trantuanthinh@ScorpioKid:~/Desktop$ ls
CSE306
trantuanthinh@ScorpioKid:~/Desktop$
```
4. 
```
trantuanthinh@ScorpioKid:~/CSE306$ nano Grade.txt
trantuanthinh@ScorpioKid:~/CSE306$ ls
Grade.txt
trantuanthinh@ScorpioKid:~/CSE306$ cat Grade.txt
Hai     6       5
Minh    7       9
Huynh   10      8
Ngoc    7       9
Ngan    4       8

trantuanthinh@ScorpioKid:~/CSE306$
```
5. 
```
trantuanthinh@ScorpioKid:~/CSE306$ mv Grade.txt StudentList.txt
trantuanthinh@ScorpioKid:~/CSE306$ ls
StudentList.txt
trantuanthinh@ScorpioKid:~/CSE306$
```

6.
```
trantuanthinh@ScorpioKid:~/CSE306$ sort -k1,1r StudentList.txt
Ngoc    7       9
Ngan    4       8
Minh    7       9
Huynh   10      8
Hai     6       5
```

7.
```
  GNU nano 7.2
echo "Enter num 1: "
read num1

echo "Enter num 2: "
read num2

sum=$((num1 + num2))

echo "Sum: $sum"
```

8.
```
file="StudentList.txt"

echo "Enter name: "
read name

echo "Enter grade 1: "
read grade1

echo "Enter grade 2:"
read grade2

echo "$name     $grade1 $grade2" >> "$file"
echo "Successfully"
cat "$file"
```

9.
```
echo "Current Directory:"
ls -la
```

10.
```
  GNU nano 7.2
log_file="listing.log"

echo "Enter directory path: "
read dir_path

if [[ -d "$dir_path" ]]; then
        ls -la "$dir_path" >> "$log_file"
        echo "Done!"
else
        touch "$log_file"
        ls -la "$dir_path" >> "$log_file"
fi
```

11.
```
echo "Enter directory path:"
read dir_path

find "$dir_path" -type f -executable
```

12.
```
read -p "Enter the username to search: " username

if grep -q "^${username}:" /etc/passwd; then
        echo "Exist"
else
        echo "Not Exist"
fi
```

13.
```
read -p "Enter the file path: " file_path

if [ -w "$file_path" ]; then
        echo "Exist"
else
        echo "Not Exist"
fi
```

14.
```
read -p "Enter the path: " path

if [ -f "$path" ]; then
        echo "Regular File"
elif [ -d "$path" ];then
        echo "Directory"
else
        echo "Another type"
fi

ls -ls "$path"
```

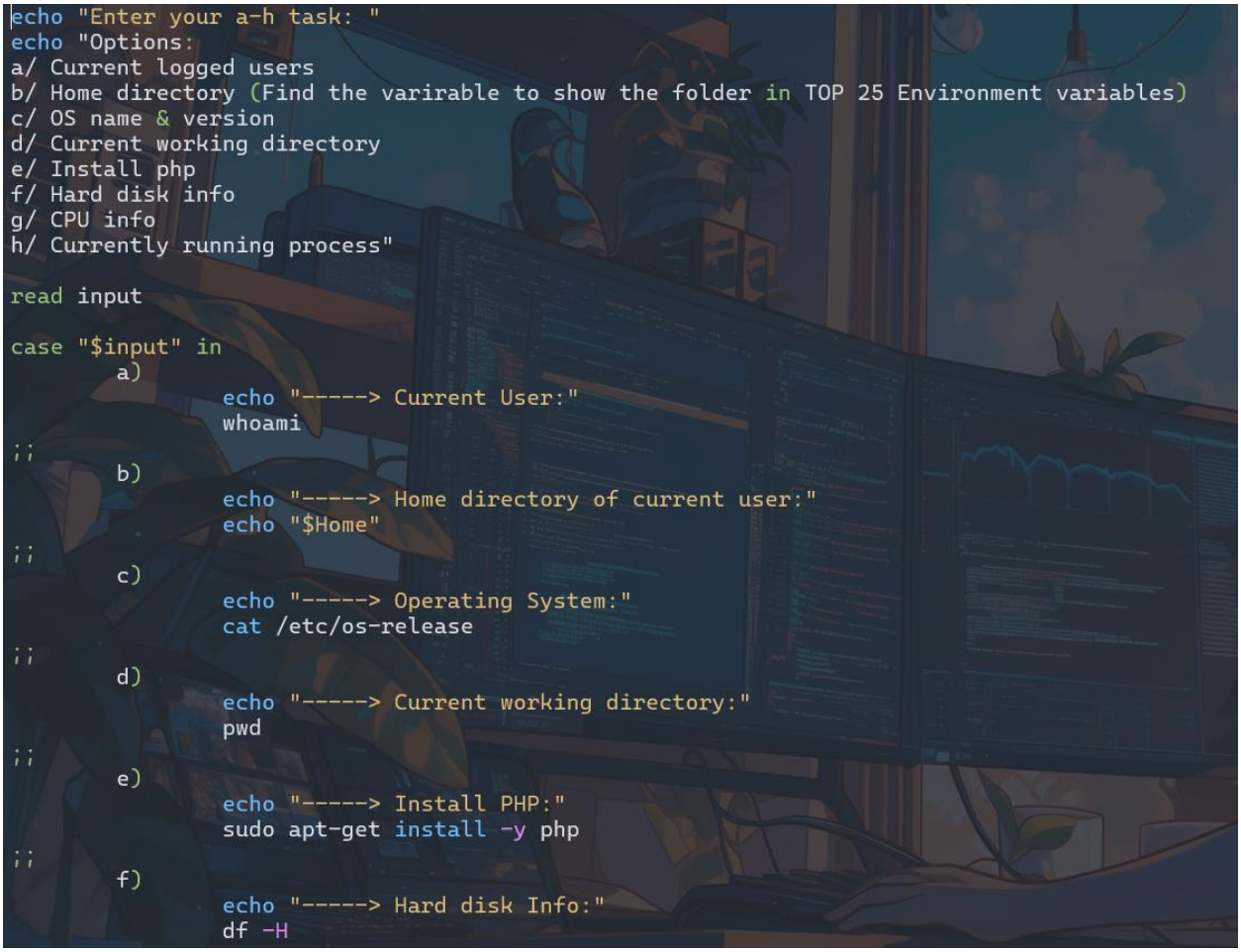
15.
```
if [ $# -eq 0 ];then
        echo "Usage: $0"
        exit 1
fi

path="$1"

if [ -f "$path" ];then
        echo "Regular File"
elif [ -d "$path" ];then
        echo "Directory"
else
        echo "Another Type"
fi

ls -l "$path"
```

16.
```
if [ "$#" -eq 0 ]; then
        echo "Usage: $0"
        exit 1
fi

for path in "$@"; do
        echo "Check: $path"

        if [ -f "$path" ];then
                echo "$path: -> Regular File"
        elif [ -d "$path" ];then
                echo "$path: -> Directory"
        else
                echo "$path: -> Another Type"
        fi

        ls -ls "$path"
done
```

17.
```
trantuanthinh@ScorpioKid:~/CSE306$ ls
StudentList.txt  checkFileAndList.sh  grep.sh              printAll.sh     sum.sh
addStudent.sh    checkPath.sh         list_executables.sh  scripts         write_log_files.sh
checkFile.sh     checkPaths.sh        listing.log          search_user.sh
trantuanthinh@ScorpioKid:~/CSE306$ mv *.sh scripts/
trantuanthinh@ScorpioKid:~/CSE306$ ls
StudentList.txt  listing.log  scripts
trantuanthinh@ScorpioKid:~/CSE306$
```

```
trantuanthinh@ScorpioKid:~/CSE306$ tar -czvf zipScripts.tar.gz scripts/
scripts/
scripts/list_executables.sh
scripts/checkPaths.sh
scripts/printAll.sh
scripts/checkFile.sh
scripts/checkPath.sh
scripts/search_user.sh
scripts/write_log_files.sh
scripts/grep.sh
scripts/sum.sh
scripts/addStudent.sh
scripts/checkFileAndList.sh
trantuanthinh@ScorpioKid:~/CSE306$ ls
StudentList.txt  listing.log  scripts  zipScripts.tar.gz
trantuanthinh@ScorpioKid:~/CSE306$
```

18.



```
echo "Enter your a-h task: "
echo "Options:
a/ Current logged users
b/ Home directory (Find the varirable to show the folder in TOP 25 Environment variables)
c/ OS name & version
d/ Current working directory
e/ Install php
f/ Hard disk info
g/ CPU info
h/ Currently running process"

read input

case "$input" in
        a)
                echo "-----> Current User:"
                whoami
;;
        b)
                echo "-----> Home directory of current user:"
                echo "$Home"
;;
        c)
                echo "-----> Operating System:"
                cat /etc/os-release
;;
        d)
                echo "-----> Current working directory:"
                pwd
;;
        e)
                echo "-----> Install PHP:"
                sudo apt-get install -y php
;;
        f)
                echo "-----> Hard disk Info:"
                df -H
```

```
;;
        g)
                echo "CPU Info:"
                lscpu

;;
        h)
                echo "Currently running processes:"
                ps -aux

;;
esac
```