

Proba 1

build: main

main: main.c secret.o second_secret.o
gcc main.c secret.o second_secret.o -o main

run: main
./main

clean:
rm main

.PHONY: clean

Proba 2

(a)
pstree -p
(b)
sudo ps -u root -o pid,ppid,user,cmd
(c)
pgrep -P 1
(d)
echo \$\$
(e)
ps --no-header -u root -o pid,user,%mem | sort -nrk3 | head -n5

Proba 3

(a)
git config --global user.name <nume>
git config --global user.email <email>
(b)
mkdir Elevi
cd Elevi
git init
(c)
echo "Romana: 8,5 | Matematica: 9,5 | Informatica: 10" > Haralambie
(d)
git add Haralambie
git commit -m "Elev adaugat"
git log

Proba 4

(a)
rsync -avu source_directory/ destination_directory
(b)
find destination_directory -type f -exec chmod a-w {} +
(c)

```
diff -rq source_directory destination_directory > reports.txt
```

(d)

```
for file in $(find destination_directory -name "*.txt"); do mv "$file" "$(dirname "$file")/.$(basename "$file")"; done
```

Proba 5

(a)

```
lscpu | grep "L[1-3].*cache"
```

(b)

```
lscpu | grep -o aes
```

(c)

```
lshw -c display
```

(d)

```
lspci -vvv | grep Ethernet -A 20 | grep driver | head -n1
```

(e)

```
lscpu | grep Hypervisor
```

Proba 6

```
#!/bin/bash
```

```
trap 'echo "You are not allowed to stop the script by CTRL + C"' INT # Ignore interrupt signal
```

```
for ((i=1; ; i++)); do
```

```
    # Choose a random color (0-7 ANSI colors)
```

```
    color=$((i % 8))
```

```
    # Choose a random text
```

```
    random_text=$(shuf -n 1 -e "Random text 1" "Random text 2" "Random text 3" "More random text")
```

```
    # Echo the text with the chosen color
```

```
    echo -e "\e[3${color}m$i: $random_text\e[0m"
```

```
    # Read input
```

```
    read -t 3 input
```

```
    # Check if input is not empty (not EOF)
```

```
    if [ -n "$input" ]; then
```

```
        cat
```

```
    fi
```

```
done
```

(d)

Scriptul trebuie pus într-un director din \$PATH (de exemplu /usr/bin)

Proba 7

(a)

```
grep -E '^[a-zA-Z][a-zA-Z0-9._]*@[a-zA-Z]+\.[a-z]{2,4}$' company_emails.txt > filtered.txt
```

```
cat filtered.txt
```

```
wc -l filtered.txt
```

(b)

```
grep "\.com$" filtered.txt > valid_emails.txt
```

(c)

```
sed -E 's/@[a-zA-Z]+\./@christmasparty./g' valid_emails.txt > christmas_emails.txt
```

Proba 8

(a)

```
sudo adduser lambda
```

(b)

```
sudo apt install zsh
```

```
sudo chsh -s $(which zsh) lambda
```

(c)

```
su - lambda
```

```
touch hot_potato
```

```
chmod 721 hot_potato
```

(d)

```
su - student
```

```
sudo visudo # adaugat o linie precum lambda    ALL=(ALL:ALL) ALL
```

```
su - lambda
```

```
sudo chown root hot_potato
```

Proba 9

(a)

```
sudo apt install traceroute
```

```
traceroute dns.google
```

(b)

```
host wikipedia.com | grep "IPv6"
```

(c)

```
ss -tl
```

(d)

```
ip r s | grep default
```

(e)

```
dig @8.8.8.8 stackoverflow.com
```

Proba 10

(a)

```
#!/bin/bash
```

```
num_files=$1
```

```
output_directory=$2
```

```
file_size_kb=$3
```

```
mkdir -p "$output_directory"
```

```
for ((i = 1; i <= num_files; i++)); do
```

```
    file_name="$output_directory/file_$i.txt"
```

```
    dd if=/dev/zero of="$file_name" bs=1024 count="$file_size_kb"
```

```
    echo "File $file_name created with size $file_size_kb KB"
```

```
done
```

(b)

```
#!/bin/bash
```

```
ping -c 4 $1 > /dev/null 2>&1
```

```
if [ $? -eq 0 ]; then
```

```
        echo "DA" > 'ye$$'  
else  
        echo "NU" > 'ye$$'  
fi
```