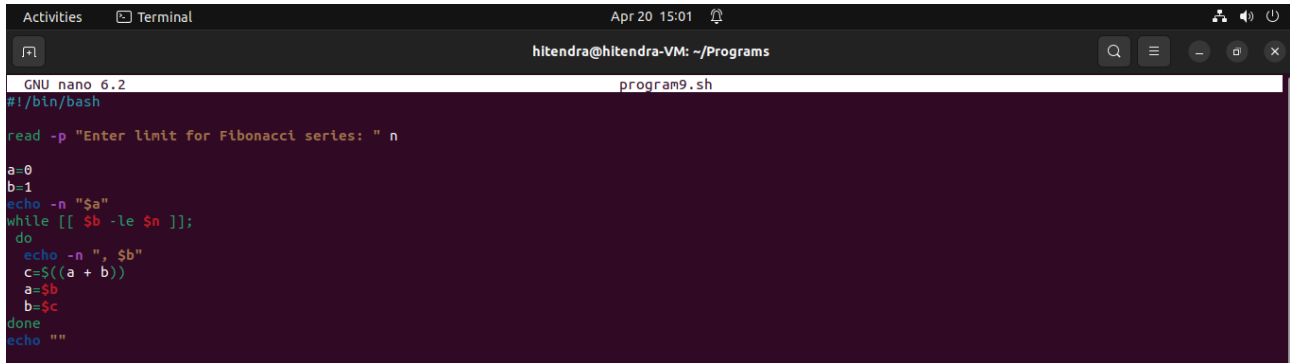


Assignment Programs

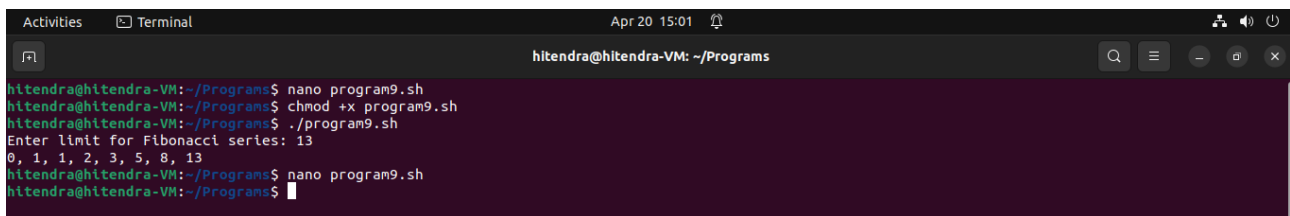
1. Description- script to read 'n' and generate Fibonacci numbers $\leq n$
Input- bash 09_fibonacci.sh
Enter limit for fibonacci series: 13
Output- The expected fibonacci series is:
0, 1, 1, 2, 3, 5, 8, 13,



```
GNU nano 6.2 program9.sh
#!/bin/bash

read -p "Enter limit for Fibonacci series: " n

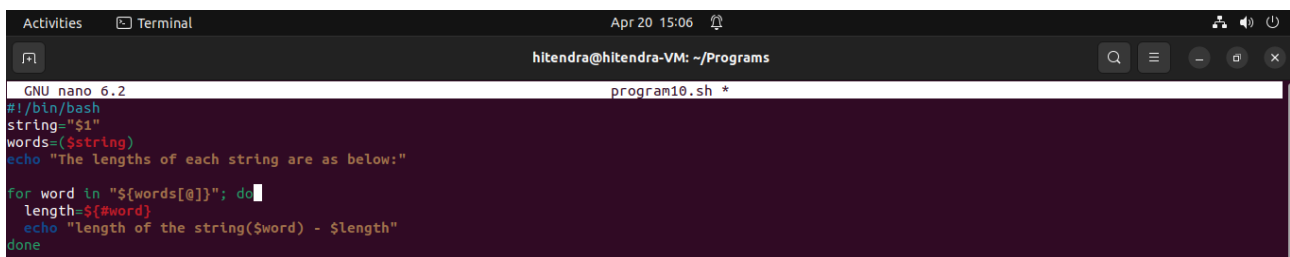
a=0
b=1
echo -n "$a"
while [[ $b -le $n ]];
do
    echo -n ", $b"
    c=$((a + b))
    a=$b
    b=$c
done
echo ""
```



```
hitendra@hitendra-VM: ~/Programs
hitendra@hitendra-VM:~/Programs$ nano program9.sh
hitendra@hitendra-VM:~/Programs$ chmod +x program9.sh
hitendra@hitendra-VM:~/Programs$ ./program9.sh
Enter limit for Fibonacci series: 13
0, 1, 1, 2, 3, 5, 8, 13
hitendra@hitendra-VM:~/Programs$ nano program9.sh
hitendra@hitendra-VM:~/Programs$
```

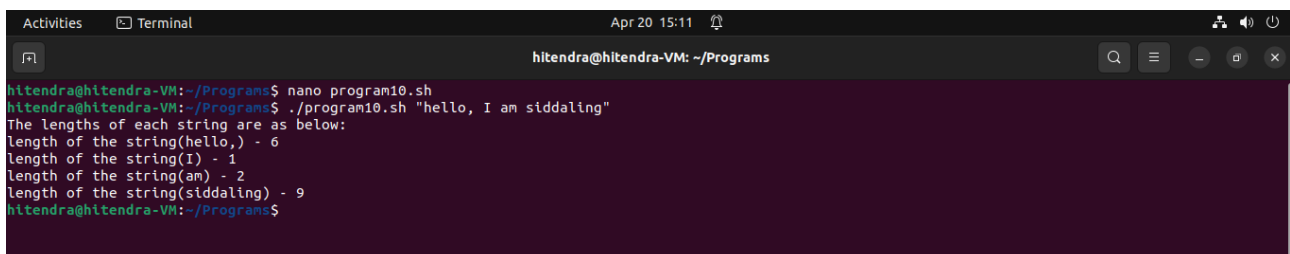
2. Description- Script to print the length of each and every string using arrays
Input- bash 10_string_length.sh hello, I am Siddaling
Output-

The lengths of each string are as below:
length of the string(hello,) -6
length of the string(I) -1
length of the string(am) -2
length of the string(Siddaling) -9



```
GNU nano 6.2 program10.sh *
#!/bin/bash
string="$1"
words=($string)
echo "The lengths of each string are as below:"

for word in "${words[@]}; do
    length=${#word}
    echo "length of the string($word) - $length"
done
```



```
hitendra@hitendra-VM:~/Programs$ nano program10.sh
hitendra@hitendra-VM:~/Programs$ ./program10.sh "hello, I am siddaling"
The lengths of each string are as below:
length of the string(hello,) - 6
length of the string(I) - 1
length of the string(am) - 2
length of the string(siddaling) - 9
hitendra@hitendra-VM:~/Programs$
```

3. script to print info according to chosen option:

```
Activities Terminal Apr 20 15:16
hitendra@hitendra-VM: ~/Programs
GNU nano 6.2 program13.sh *
#!/bin/bash

echo "1. Currently logged users"
echo "2. Your shell directory"
echo "3. Home directory"
echo "4. OS name & version"
echo "5. Current working directory"
echo "6. Number of users logged in"
echo "7. Show all available shells in your system"
echo "8. Hard disk information"
echo "9. CPU information"
echo "10. Memory information"
echo "11. File system information"
echo "12. Currently running process"
echo -n "Enter the option: "
read option

case $option in
  1) who ;;
  2) echo "Your shell directory is $SHELL" ;;
  3) echo "Your home directory is $HOME" ;;
  4) echo "OS name and version: $(cat /etc/*-release | grep PRETTY_NAME)" ;;
  5) echo "Your current working directory is $(pwd)" ;;
  6) echo "Number of users logged in: $(who | wc -l)" ;;
  7) cat /etc/shells ;;
  8) echo "Hard disk information:"
    df -h ;;
  9) echo "CPU information:"
    lscpu ;;
  10) echo "Memory information:"
    free -m ;;
  11) echo "File system information:"
    df -T ;;
  12) echo "Currently running processes:"
    ps aux ;;
  *) echo "Invalid option" ;;
esac
```

```
Activities Terminal Apr 20 15:20
hitendra@hitendra-VM: ~/Programs
hitendra@hitendra-VM:~/Programs$ chmod +x program13.sh
hitendra@hitendra-VM:~/Programs$ ./program13.sh
1. Currently logged users
2. Your shell directory
3. Home directory
4. OS name & version
5. Current working directory
6. Number of users logged in
7. Show all available shells in your system
8. Hard disk information
9. CPU information
10. Memory information
11. File system information
12. Currently running process
Enter the option: 8
Hard disk information:
Filesystem      Size  Used Avail Use% Mounted on
tmpfs           389M  2.1M  387M   1% /run
/dev/sda3       31G   15G   15G  51% /
tmpfs           1.9G   0  1.9G   0% /dev/shm
tmpfs           5.0M  4.0K  5.0M   1% /run/lock
/dev/sda2       512M  6.1M  506M   2% /boot/efi
tmpfs           389M 104K  389M   1% /run/user/1000
/dev/sr1        3.6G  3.6G   0 100% /media/hitendra/Ubuntu 22.04.1 LTS amd64
/dev/sr0        127M  127M   0 100% /media/hitendra/CDROM
hitendra@hitendra-VM:~/Programs$
```

4. Description- Script to display the longest and shortest user-names on the system.

Input- bash 18_largest_username.sh

Output-

The user with longest name is gnome-initial-setup

The user with shortest name is lp



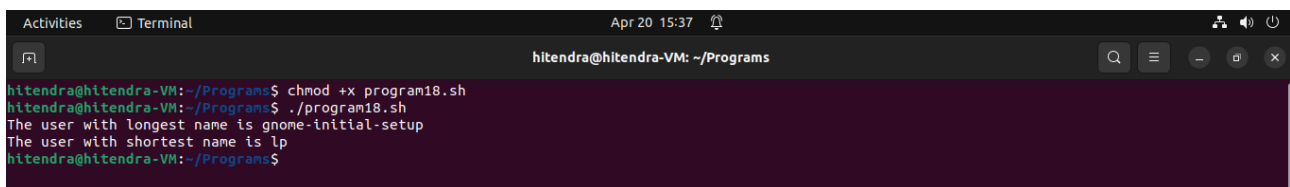
```
GNU nano 6.2                                program18.sh *
#!/bin/bash

user_names=$(cut -d: -f1 /etc/passwd)

longest_name=''
shortest_name=$(echo "$user_names" | head -n1)

for name in $user_names; do
    if [[ ${#name} -gt ${#longest_name} ]]; then
        longest_name=$name
    fi

    if [[ ${#name} -lt ${#shortest_name} ]]; then
        shortest_name=$name
    fi
done
echo "The user with longest name is $longest_name"
echo "The user with shortest name is $shortest_name"
```



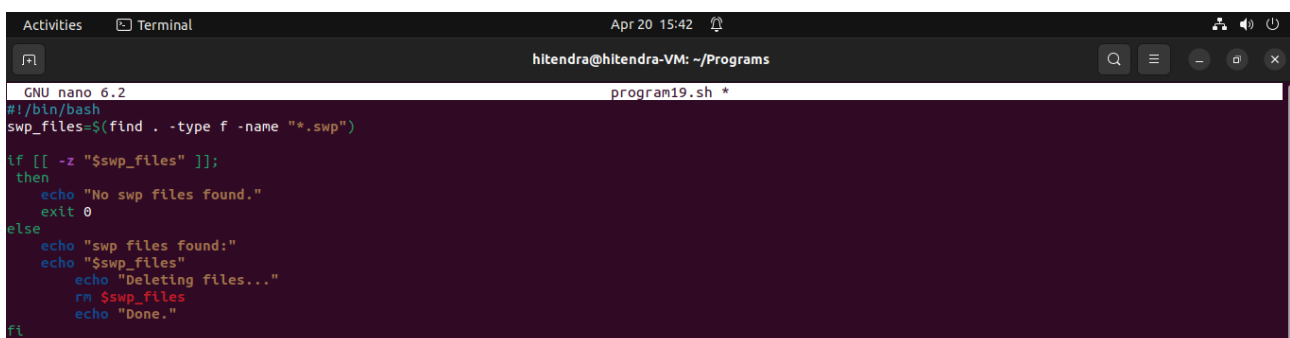
```
hitendra@hitendra-VM: ~/Programs
hitendra@hitendra-VM:~/Programs$ chmod +x program18.sh
hitendra@hitendra-VM:~/Programs$ ./program18.sh
The user with longest name is gnome-initial-setup
The user with shortest name is lp
hitendra@hitendra-VM:~/Programs$
```

5. Description- Script to delete all the .swp files found in your system or directory.

Input- bash 19_delete_display_swp.sh

Output- swp files found:

./b.swp
./siddaling/b.swp
./siddaling/c.swp
./siddaling/test/b.swp
./siddaling/test/c.swp
./siddaling/test/d.swp
./siddaling/test/a.swp
./siddaling/test/e.swp
./siddaling/d.swp
./siddaling/a.swp
./a.swp



```
GNU nano 6.2                                program19.sh *
#!/bin/bash

swp_files=$(find . -type f -name "*.swp")

if [[ -z "$swp_files" ]]; then
    echo "No swp files found."
    exit 0
else
    echo "swp files found:"
    echo "$swp_files"
    echo "Deleting files..."
    rm $swp_files
    echo "Done."
fi
```

```
Activities Terminal Apr 20 15:46 hitendra@hitendra-VM: ~/Programs

hitendra@hitendra-VM:~/Programs$ touch 1.swp
hitendra@hitendra-VM:~/Programs$ touch 2.swp
hitendra@hitendra-VM:~/Programs$ (find . -type f -name "*.swp")
./2.swp
./1.swp
hitendra@hitendra-VM:~/Programs$ chmod +x program19.sh
hitendra@hitendra-VM:~/Programs$ ./program19.sh
swp files found:
./2.swp
./1.swp
Deleting files...
Done.
hitendra@hitendra-VM:~/Programs$
```