

OSG202 LAB 04

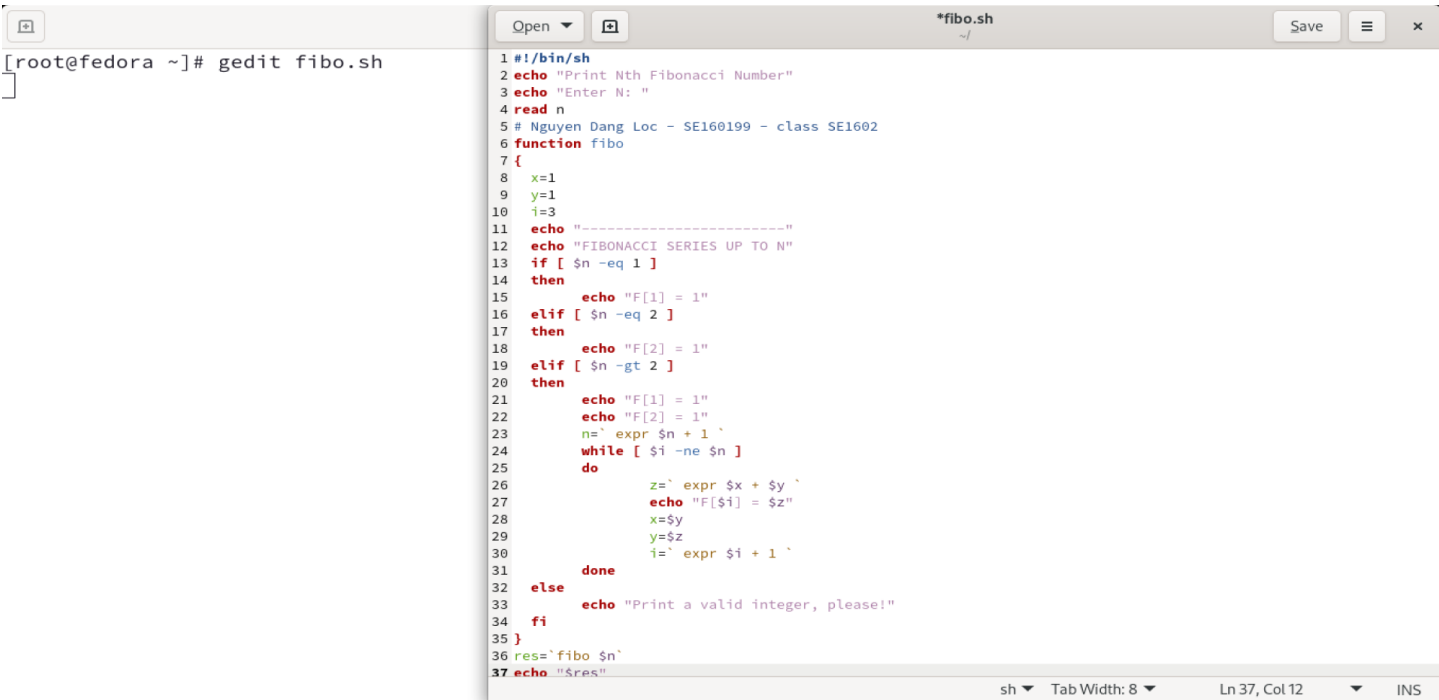
ASSIGNMENT REPORT

Programming in Shell

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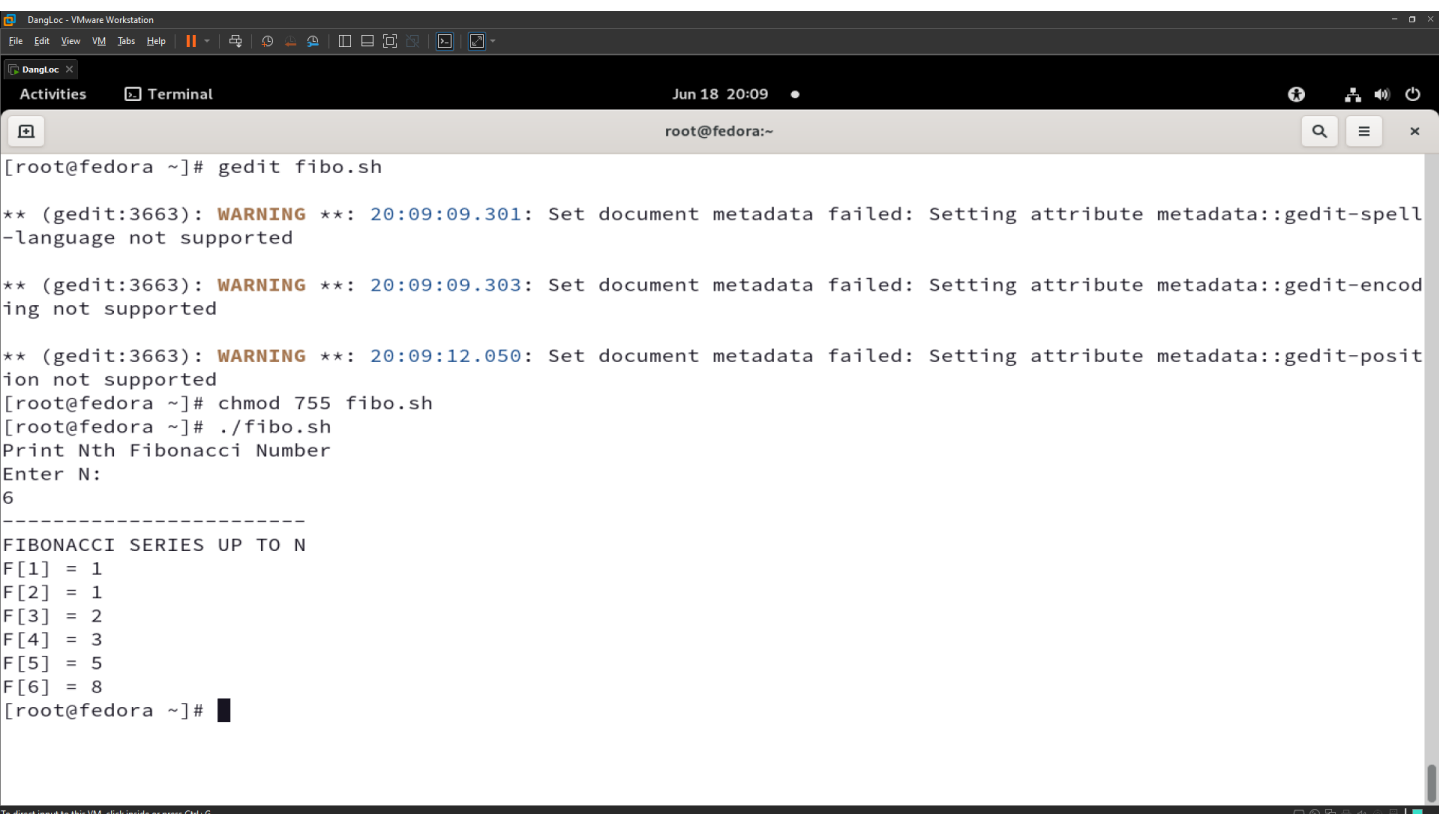
Fibonacci program in Shell

I use GEDIT (editor supplied with the GNOME desktop environment) Because I feel it easy to use and it also has syntax highlighting, vary color of parameters, variables.



```
1 #!/bin/sh
2 echo "Print Nth Fibonacci Number"
3 echo "Enter N: "
4 read n
5 # Nguyen Dang Loc - SE160199 - class SE1602
6 function fibo
7 {
8     x=1
9     y=1
10    i=3
11    echo "-----"
12    echo "FIBONACCI SERIES UP TO N"
13    if [ $n -eq 1 ]
14    then
15        echo "F[1] = 1"
16    elif [ $n -eq 2 ]
17    then
18        echo "F[2] = 1"
19    elif [ $n -gt 2 ]
20    then
21        echo "F[1] = 1"
22        echo "F[2] = 1"
23        n=`expr $n + 1 `
24        while [ $i -ne $n ]
25        do
26            z=`expr $x + $y `
27            echo "F[$i] = $z"
28            x=$y
29            y=$z
30            i=`expr $i + 1 `
31        done
32    else
33        echo "Print a valid integer, please!"
34    fi
35 }
36 res=`fibo $n`
37 echo "$res"
```

After typing command line **gedit fibo.sh**, a new window of editor pop up and I wrote my code there.



```
root@fedora ~]# gedit fibo.sh

** (gedit:3663): WARNING **: 20:09:09.301: Set document metadata failed: Setting attribute metadata::gedit-spell-language not supported

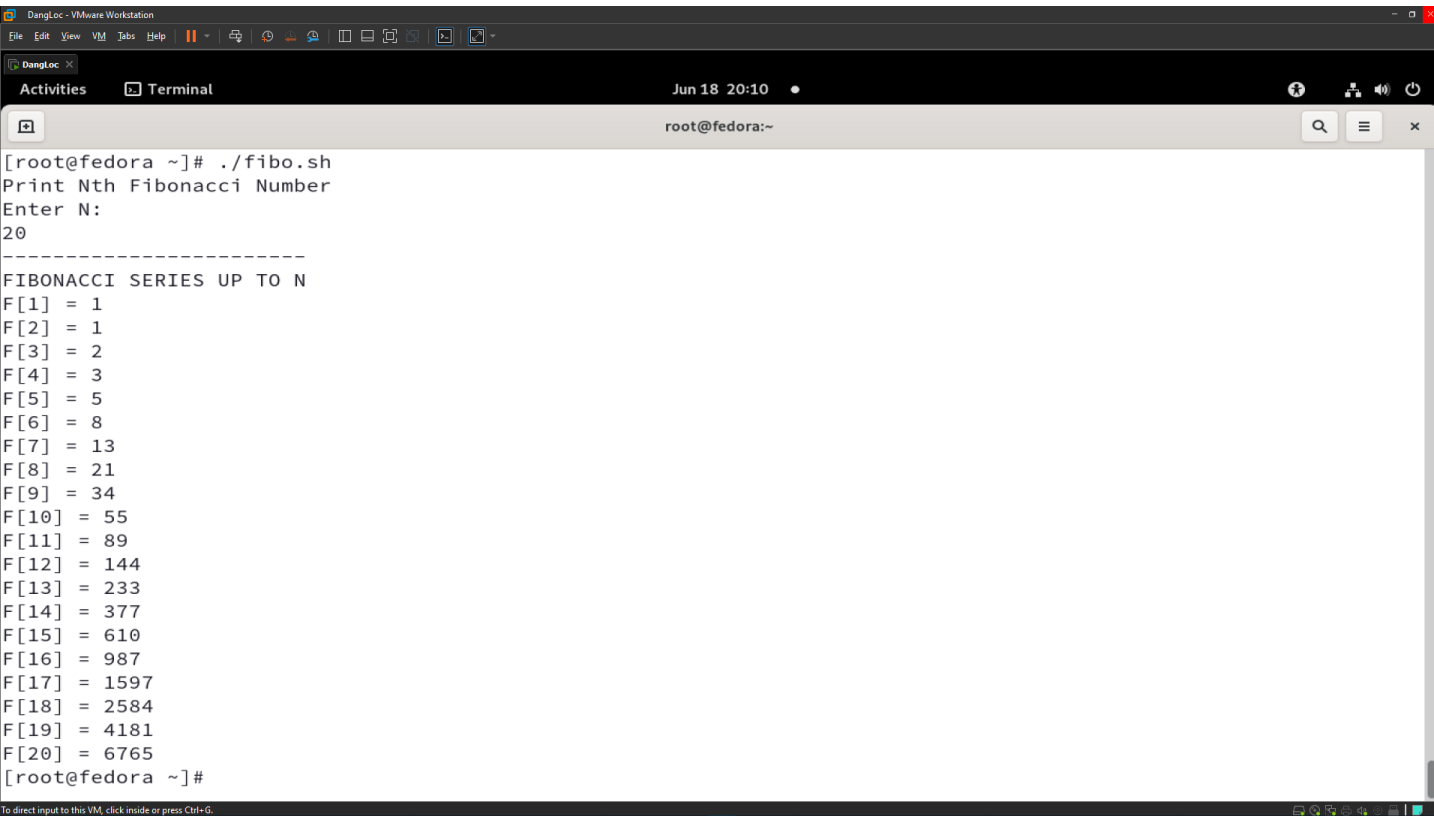
** (gedit:3663): WARNING **: 20:09:09.303: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported

** (gedit:3663): WARNING **: 20:09:12.050: Set document metadata failed: Setting attribute metadata::gedit-position not supported

root@fedora ~]# chmod 755 fibo.sh
root@fedora ~]# ./fibo.sh
Print Nth Fibonacci Number
Enter N:
6
-----
FIBONACCI SERIES UP TO N
F[1] = 1
F[2] = 1
F[3] = 2
F[4] = 3
F[5] = 5
F[6] = 8
root@fedora ~]#
```

Save the code and back to the terminal, there was some warning by I still don't know how to fix it, but it's not a very serious problem.

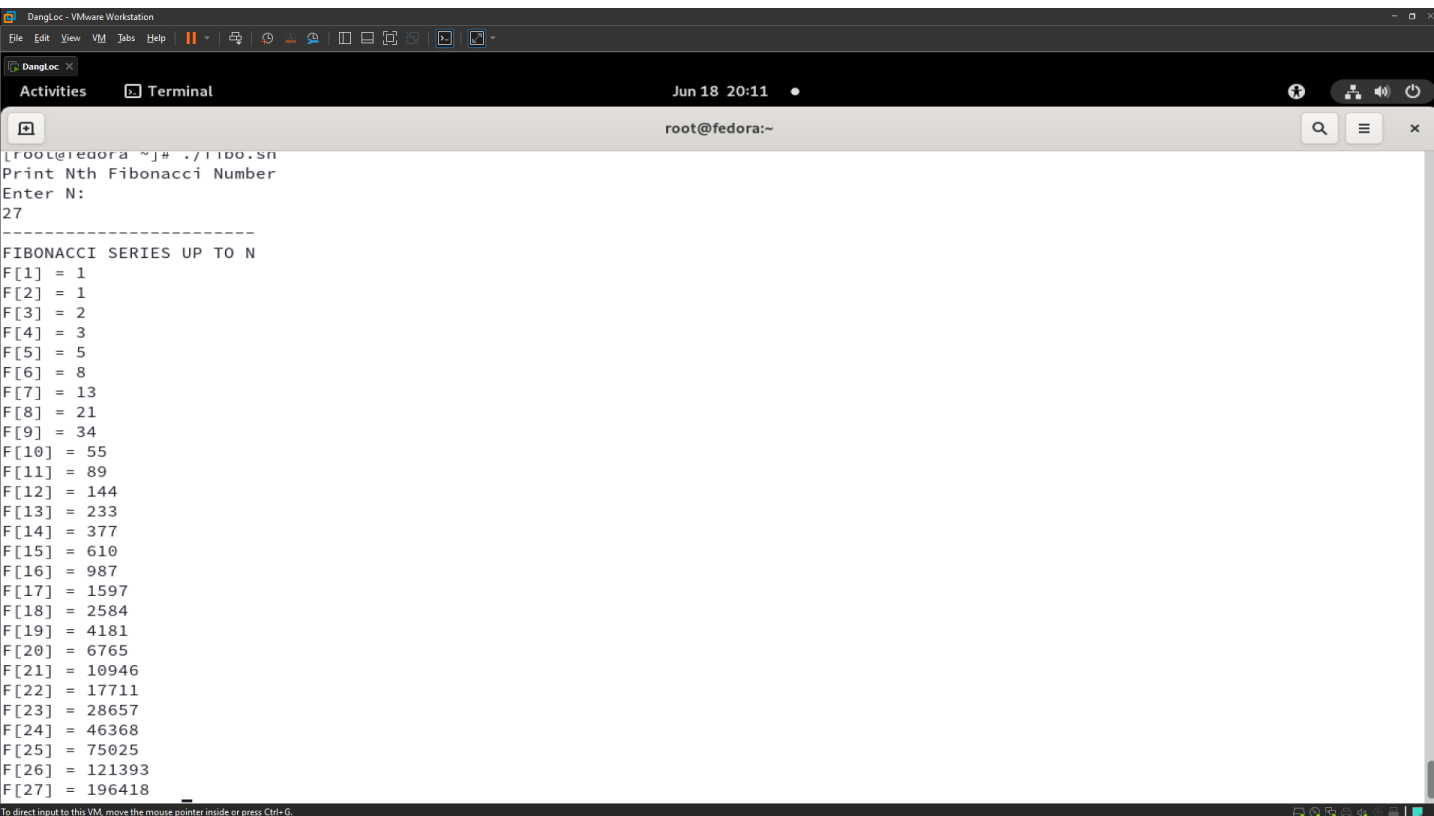
I test the program with some values (as shown below).



The screenshot shows a terminal window titled "DangLoc - VMware Workstation" with a menu bar (File, Edit, View, VM, Tabs, Help) and a toolbar. The terminal interface includes a title bar "DangLoc", a menu bar "Activities", and a status bar "Jun 18 20:10". The prompt is "root@fedora:~". The user enters the command `./fibo.sh`. The program outputs "Print Nth Fibonacci Number" and "Enter N:". The user enters "20". The program then prints the Fibonacci series up to N=20.

```
[root@fedora ~]# ./fibo.sh
Print Nth Fibonacci Number
Enter N:
20
-----
FIBONACCI SERIES UP TO N
F[1] = 1
F[2] = 1
F[3] = 2
F[4] = 3
F[5] = 5
F[6] = 8
F[7] = 13
F[8] = 21
F[9] = 34
F[10] = 55
F[11] = 89
F[12] = 144
F[13] = 233
F[14] = 377
F[15] = 610
F[16] = 987
F[17] = 1597
F[18] = 2584
F[19] = 4181
F[20] = 6765
[root@fedora ~]#
```

At the bottom, a small text line reads: "To direct input to this VM, click inside or press Ctrl+G."



The screenshot shows a terminal window titled "DangLoc - VMware Workstation" with a menu bar (File, Edit, View, VM, Tabs, Help) and a toolbar. The terminal interface includes a title bar "DangLoc", a menu bar "Activities", and a status bar "Jun 18 20:11". The prompt is "root@fedora:~". The user enters the command `./fibo.sh`. The program outputs "Print Nth Fibonacci Number" and "Enter N:". The user enters "27". The program then prints the Fibonacci series up to N=27.

```
[root@fedora ~]# ./fibo.sh
Print Nth Fibonacci Number
Enter N:
27
-----
FIBONACCI SERIES UP TO N
F[1] = 1
F[2] = 1
F[3] = 2
F[4] = 3
F[5] = 5
F[6] = 8
F[7] = 13
F[8] = 21
F[9] = 34
F[10] = 55
F[11] = 89
F[12] = 144
F[13] = 233
F[14] = 377
F[15] = 610
F[16] = 987
F[17] = 1597
F[18] = 2584
F[19] = 4181
F[20] = 6765
F[21] = 10946
F[22] = 17711
F[23] = 28657
F[24] = 46368
F[25] = 75025
F[26] = 121393
F[27] = 196418
```

At the bottom, a small text line reads: "To direct input to this VM, move the mouse pointer inside or press Ctrl+G."

My source code of **FIBONACCI** program in Shell script.

```
#!/bin/sh
echo "Print Nth Fibonacci Number"
echo "Enter N: "
read n
# Nguyen Dang Loc - SE160199 - class SE1602
function fibo
{
    x=1
    y=1
    i=3
    echo "-----"
    echo "FIBONACCI SERIES UP TO N"
    if [ $n -eq 1 ]
    then
        echo "F[1] = 1"
    elif [ $n -eq 2 ]
    then
        echo "F[2] = 1"
    elif [ $n -gt 2 ]
    then
        echo "F[1] = 1"
        echo "F[2] = 1"
        n=`expr $n + 1`
        while [ $i -ne $n ]
        do
            z=`expr $x + $y`
            echo "F[$i] = $z"
            x=$y
            y=$z
            i=`expr $i + 1`
        done
    else
        echo "Print a valid integer, please!"
    fi
}
res=`fibo $n`
echo "$res"
```

Thank you!