<u>**CSE2005 OS – LAB 02**</u>

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Calc, Create&Kill Process, I/O Sys Calls, Bootloader

→ **Calculator**

```bash
#!/bin/bash

echo 'Add Multi Sub Div'
echo 'enter 2 numbers'
read a
read b
c=$(($a+$b))
echo "sum is $a+$b = $c"
echo
d=$(($a*$b))
echo "multi is $a*$b = $d"
echo
e=$(($a-$b))
echo "Sub is $a-$b = $e"
echo
f=$(($a/$b))
echo "div is $a/$b = $f"
echo
```

```
$ add_multi.sh
1    #!/bin/bash
2
3    echo 'Add Multi Sub Div'
4    echo 'enter 2 numbers'
5    read a
6    read b
7    c=$(($a+$b))
8    echo "sum is $a+$b = $c"
9    echo
10   d=$(($a*$b))
11   echo "multi is $a*$b = $d"
12   echo
13   e=$(($a-$b))
14   echo "Sub is $a-$b = $e"
15   echo
16   f=$(($a/$b))
17   echo "div is $a/$b = $f"
18   echo
19
20   #Advait Deochakke 20BCE1143
```

```
advait@advait-VirtualBox: ~/Desktop/CS...
advait@advait-VirtualBox:~$ cd Desktop/CSE2005/LAB02
advait@advait-VirtualBox:~/Desktop/CSE2005/LAB02$ ./add_multi.sh
Add Multi Sub Div
enter 2 numbers
420
69
sum is 420+69 = 489

multi is 420*69 = 28980

Sub is 420-69 = 351

div is 420/69 = 6

advait@advait-VirtualBox:~/Desktop/CSE2005/LAB02$
```

→Create and Kill Process


```c
#include <stdio.h>
#include <sys/types.h>
#include <unistd.h>
#include<stdlib.h>
#include<time.h>


int main()
{
    //Advait Deochakke 20BCE1143
    time_t t;
    t=time(NULL);

    printf("Hello world!\n");
    fork();
    srand(t);
    for(int i=0; i<5; i++)
    {
        printf("%d\n", rand()%50);
    }

    return 0;
}
```

```
echo 'fat lol'
ps
echo 'enter pid to kill lol'
read a
kill -9 $a
```

→I/O Sys Calls

1. cat> (filename) (create file) (Enter file contents line by line)

2. cat (filename) (show file contents)

3. cat (file 1) >> (file 2) (copy file contents) (ctrl c ctrl v)

→Bootloader

```
[BITS 16]
[ORG 0x7C00]

MOV SI, Stringer
CALL PrintString
JMP $


PrintCharacter:

MOV AH, 0x0E
MOV BH, 0x00
MOV BL, 0x07
INT 0x10
RET


PrintString:

next_character:
MOV AL, [SI]
OR AL, AL
JZ exit_function
CALL PrintCharacter
JMP next_character
exit_function:
RET


;Data
Stringer db 'Advait', 0 ;
TIMES 510 - ($ - $$) db 0
DW 0xAA55
```
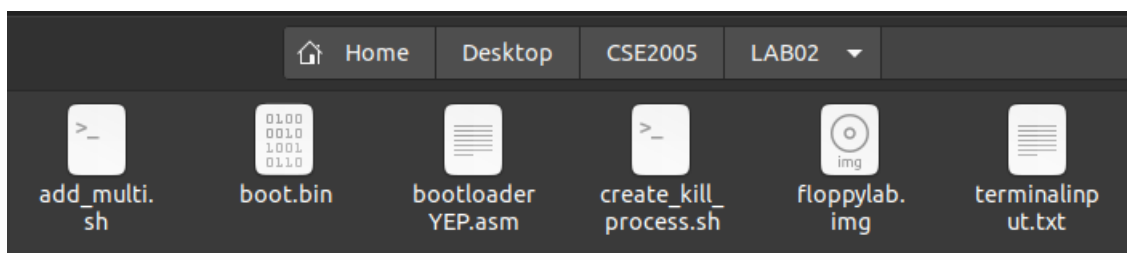
→ boot.bin and floppyimage.img disc image filename

→ running on virtual box