P20-0107
BCS - 4A

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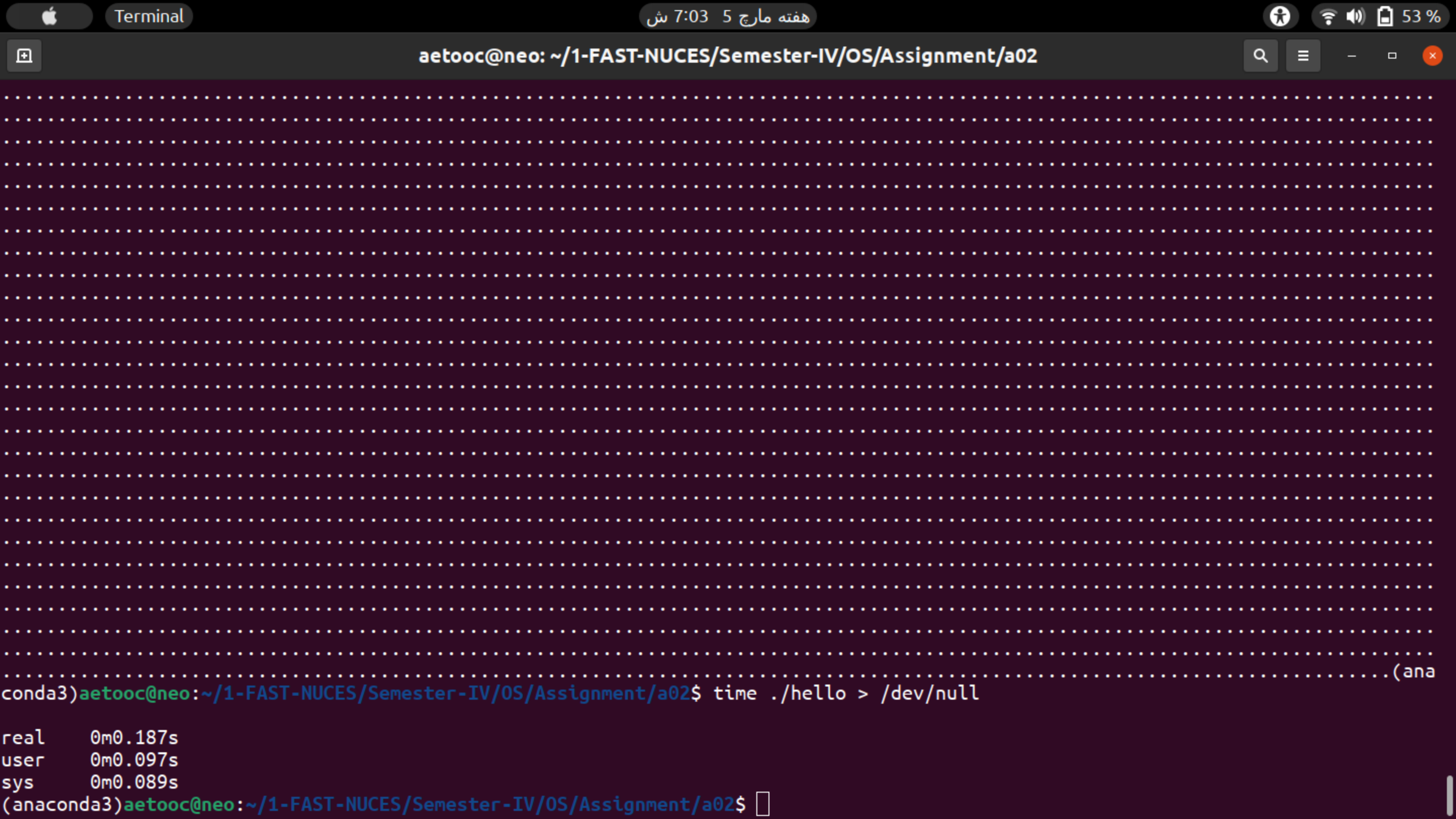
hello.asm

home > aetooc > 1-FAST-NUCES > Semester-IV > OS > Assignment > a02 > hello.asm

```
section .data
    hello: db '.'
    helloLen: equ $-hello

section .text
global _start

_start:
    mov ecx, 500000

    l1:
        mov esi, ecx

        mov eax, 4
        mov ebx, 1
        mov ecx, hello
        mov edx, helloLen
        int 80h

        mov ecx, esi
    loop l1

    mov eax, 1
    mov ebx, 0
    int 80h
```

```
(anaconda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$ nasm -f elf64 hello.asm
(anaconda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$ ld -s -o hello hello.o
(anaconda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$ ./hello
```


Terminal
هفته مارچ 5 7:03 ش
53 %
aetooc@neo: ~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02
(ana
conda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$ time ./hello > /dev/null

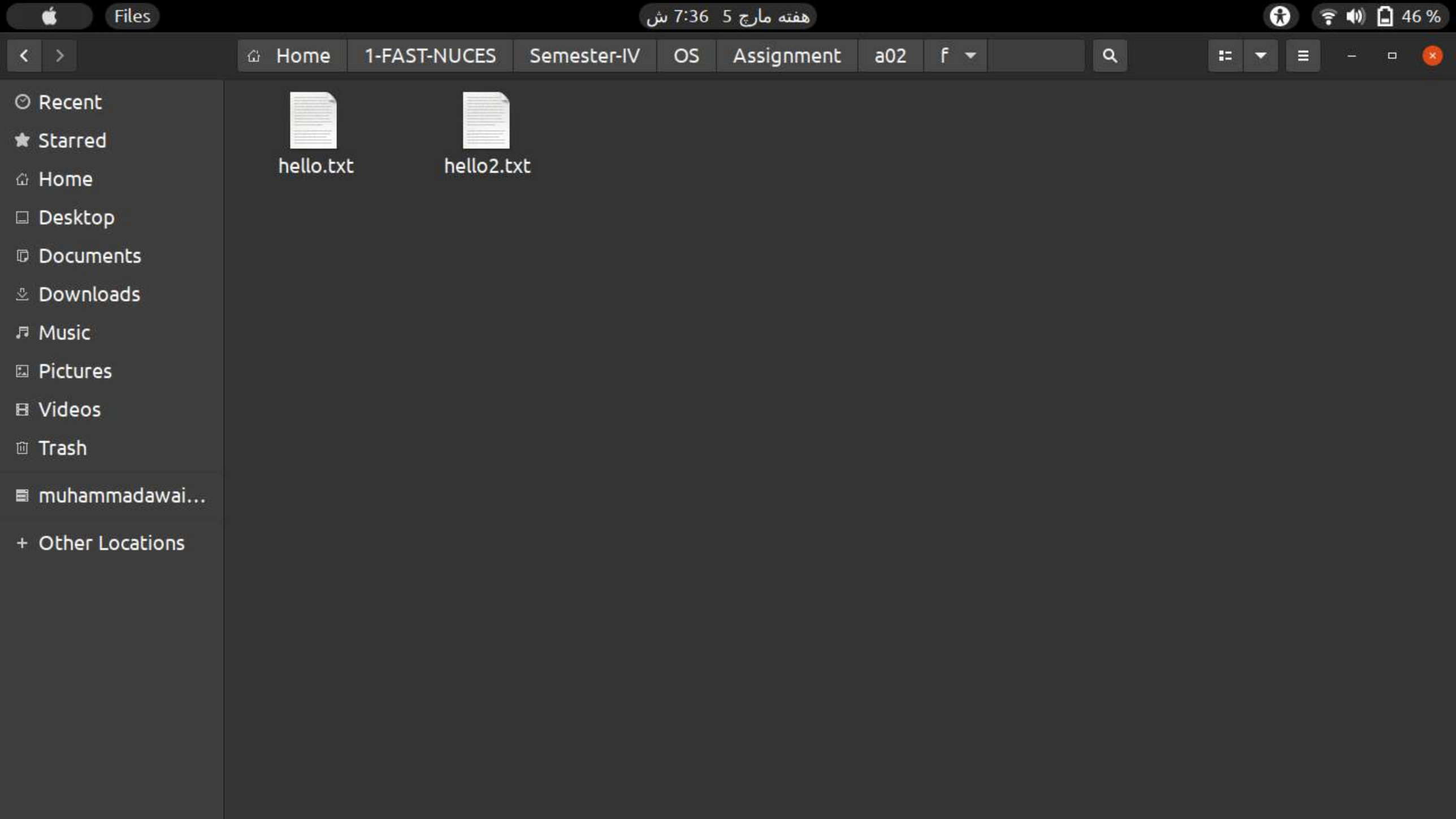

Terminal
هفته مارچ 5 7:03 ش
53 %
aetooc@neo: ~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02
(ana
conda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$ time ./hello > /dev/null
real 0m0.187s
user 0m0.097s
sys 0m0.089s
(anaconda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$

hello.asm | hello2.asm

home > aetooc > 1-FAST-NUCES > Semester-IV > OS > Assignment > a02 > hello2.asm

```
section .data
    hello: db '.'
    helloLen: equ $-hello

section .text
global _start

_start:
    mov ecx, 500000

l1:
    mov ebx,ecx

    mov rdi, 1
    mov rsi, hello
    mov rdx, helloLen
    mov rax, 1
    syscall

    mov ecx, ebx

loop l1

mov rdi, 0
mov rax, 60
syscall
```

```
(anaconda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$ nasm -f elf64 -o hello.o hello.asm
(anaconda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$ nasm -f elf64 -o hello2.o hello2.asm
(anaconda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$ ld -s -o hello hello.o
(anaconda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$ ld -s -o hello2 hello2.o
(anaconda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$ chmod +x runner.sh
(anaconda3)aetooc@neo:~/1-FAST-NUCES/Semester-IV/OS/Assignment/a02$ ./runner.sh
```


Files
هفته مارچ 5 7:36 ش
46 %
Home
1-FAST-NUCES
Semester-IV
OS
Assignment
a02
f
Recent
Starred
Home
Desktop
Documents
Downloads
Music
Pictures
Videos
Trash
muhammadawai...
Other Locations
hello.txt
hello2.txt

File Edit View Run Kernel Tabs Settings Help

Python.ipynb | time.csv | hello3.txt | hello.csv

Code | Python 3 (ipykernel)

[16]:
```
import csv

avgFile = "Hello.txt"
mainFile = "hello.txt"
fileNo = "First"

# avgFile = "Hello2.txt"
# mainFile = "hello2.txt"
# fileNo = "Second"

def ReadData():
    with open(avgFile, 'w') as temp:
        with open(mainFile, 'r') as file:
            data = file.readlines()
            for line in data:
                if line[0] == 'r':
                    temp.write(line)
                else:
                    pass
ReadData()
```

[14]:
```
import pandas as pd

# creating a data frame
```

Simple | 0 | 1 | Python 3 (ipykernel) | Idle | Mode: Edit | Ln 9, Col 20 | Python.ipynb

[17]:
```
import pandas as pd

# creating a data frame
df = pd.read_table(avgFile, delimiter ="\t0m0", header=None)
df.columns = ["real", "time"]
dt = df["time"]
with open("time.csv", 'w') as temp:
    for i in dt:
        temp.write(i[0:4])
        temp.write("\n")

dk = pd.read_table("time.csv", header= None)
dk.columns = ["real"]
print(f"{fileNo} File Time :\n\t\t {dk.mean()}")
```

```
First File Time :
                real    0.13592
```

[20]:
```
I = 0.13592
S = 0.05260

print( (I-S)*100/I)
```

```
61.300765155974105
```

[ ]:

Number of experiments run >>> N = 50

Average ‘user time’ for hello (int-based calls) >>> I = 0.13592

Average ‘user time’ for hello2 (syscall-based calls) >>> S = 0.05260

Percentage speedup >>> (I-S)*100/I = 61.300765155974105

[ ]: