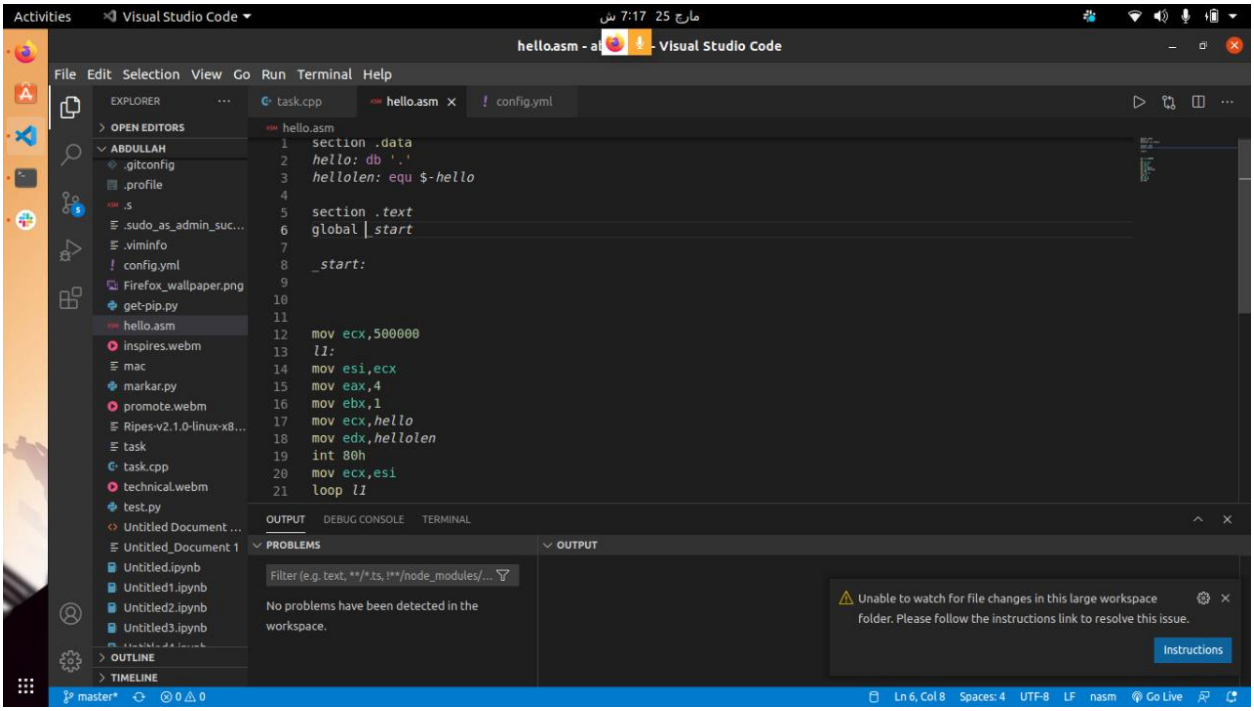
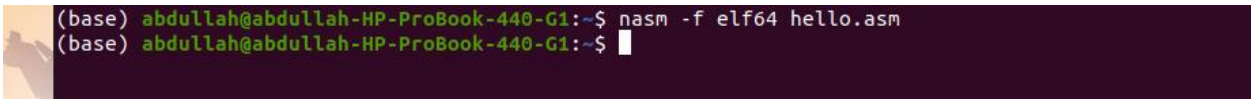
Number of experiment run : 50

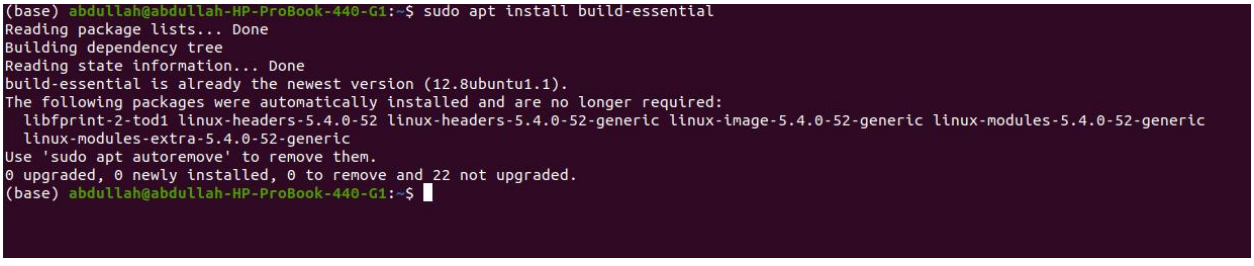
Average “user time” for hello (int -based calls): 0.07884

Average “user time” for hello2 (syscall-based): 0.0122

Percentage Speed Up








```
real    0m0.396s
user    0m0.233s
sys     0m0.161s
(base) abdullah@abdullah-HP-ProBook-440-G1:~$
```

```
(base) abdullah@abdullah-HP-ProBook-440-G1:~$ nasm -f elf64 hello.asm
(base) abdullah@abdullah-HP-ProBook-440-G1:~$ nasm -f elf64 hello2.asm
(base) abdullah@abdullah-HP-ProBook-440-G1:~$ ld -s -o hello hello.o
(base) abdullah@abdullah-HP-ProBook-440-G1:~$ ld -s -o hello2 hello2.o
(base) abdullah@abdullah-HP-ProBook-440-G1:~$
```

```
(base) abdullah@abdullah-HP-ProBook-440-G1:~/bruh$ nasm -f elf64 -o hello hello
.asm
(base) abdullah@abdullah-HP-ProBook-440-G1:~/bruh$ nasm -f elf64 -o hello2 hell
o2.asm
(base) abdullah@abdullah-HP-ProBook-440-G1:~/bruh$ ld -s -o hello hello.o
(base) abdullah@abdullah-HP-ProBook-440-G1:~/bruh$ ld -s -o hello2 hello2.o
(base) abdullah@abdullah-HP-ProBook-440-G1:~/bruh$ chmod +x runner.sh
(base) abdullah@abdullah-HP-ProBook-440-G1:~/bruh$ ./runner.sh
(base) abdullah@abdullah-HP-ProBook-440-G1:~/bruh$
```

```
(base) abdullah@abdullah-HP-ProBook-440-G1:~/bruh$ g++ code.cpp -o o
(base) abdullah@abdullah-HP-ProBook-440-G1:~/bruh$ ./o

hello average time0.07884
hello2 average time0.0122
percentage speed up is  :84.5256(base) abdullah@abdullah-HP-ProBook-440-G1:~/bruh$
```

```
ifstream file;
file.open(name);
string string_1;
char char_1,char_2;
int integer;
double average=0.0,x=0.0;
while(!file.eof())
{
    for(int i=0; i<2;i++)
    {
    file>>string_1;
    file>>integer;
    file>>char_1;
    file>>x;
    file>>char_2;
    }

    average=average+x;
    file>>string_1;
    file>>integer;
```

```
      file>>integer;
      file>>char_1;
      file>>x;
      file>>char_2;
  }
  average =average/50;
  return average;

nt main()
```

```
}
int main()
{
    double x,y;
    x=file("hello.txt");
    y=file("hello2.txt");
    cout<<endl<<"hello average time"<<x;
    cout<<endl<<"hello2 average time"<<y;
    double a=((x-y)*100)/a;
    cout<<endl<<"percentage speed up is  :"<<a;


}
```