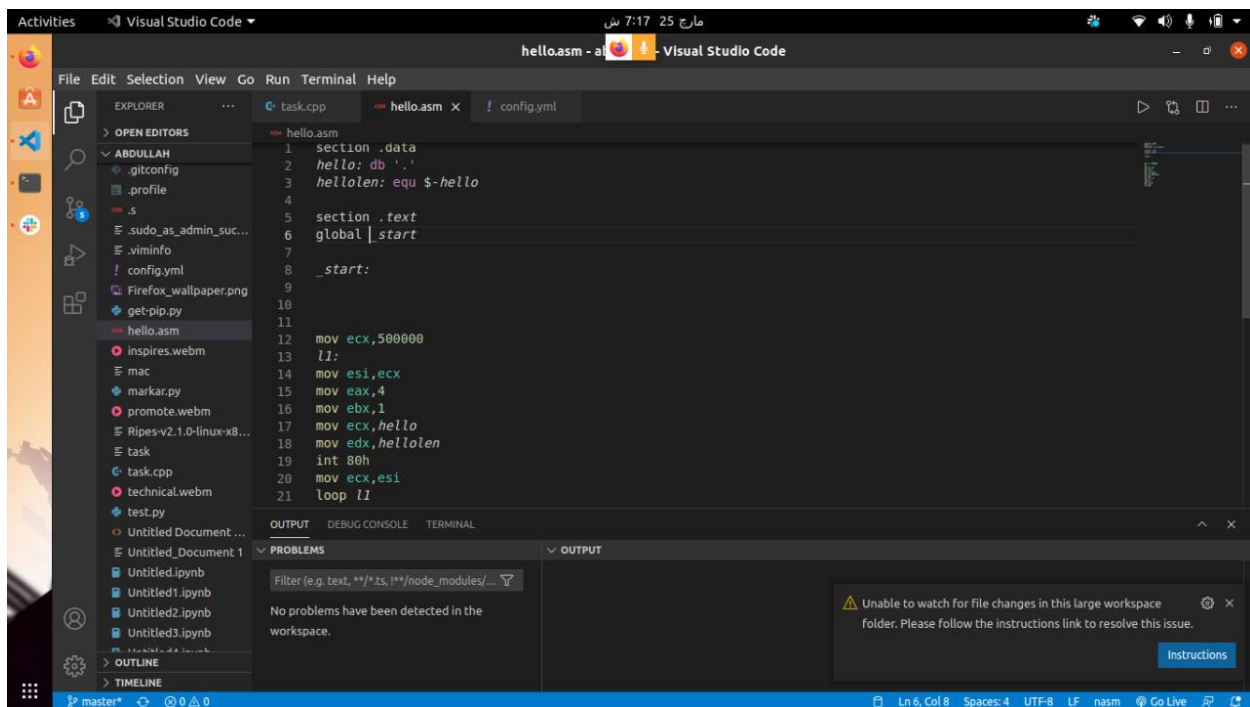


Number of experiment run : 50

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

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

Percentage Speed Up



The screenshot shows the Visual Studio Code interface with the file 'hello.asm' open. The code is written in NASM assembly language. The Explorer sidebar on the left shows a project structure with files like 'task.cpp', 'config.yml', and 'hello.asm'. The main editor area displays the following assembly code:

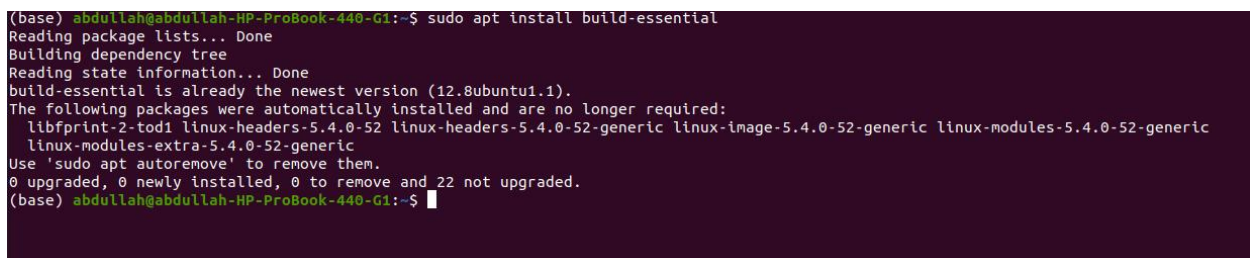
```
1 section .data
2     hello: db '.',
3     hellolen: equ $-hello
4
5 section .text
6     global _start
7
8     _start:
9
10
11
12     mov ecx, 500000
13     li:
14     mov esi, ecx
15     mov eax, 4
16     mov ebx, 1
17     mov ecx, hello
18     mov edx, hellolen
19     int 80h
20     mov ecx, esi
21     loop li
```

The bottom panel shows the 'OUTPUT' tab with a message: 'Unable to watch for file changes in this large workspace folder. Please follow the instructions link to resolve this issue.' The status bar at the bottom indicates 'Ln 6, Col 8', 'Spaces: 4', 'UTF-8', 'LF', 'nasm', and 'Go Live'.



The terminal shows the command to compile the assembly code using NASM:

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



The terminal shows the command to install build-essential and the output:

```
(base) abdullah@abdullah-HP-ProBook-440-G1:~$ sudo apt install build-essential
Reading package lists... Done
Building dependency tree
Reading state information... Done
build-essential is already the newest version (12.8ubuntu1.1).
The following packages were automatically installed and are no longer required:
  libfprint-2-tod1 linux-headers-5.4.0-52 linux-headers-5.4.0-52-generic linux-image-5.4.0-52-generic linux-modules-5.4.0-52-generic
  linux-modules-extra-5.4.0-52-generic
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 22 not upgraded.
(base) abdullah@abdullah-HP-ProBook-440-G1:~$
```



```

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;

int 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;

}

```