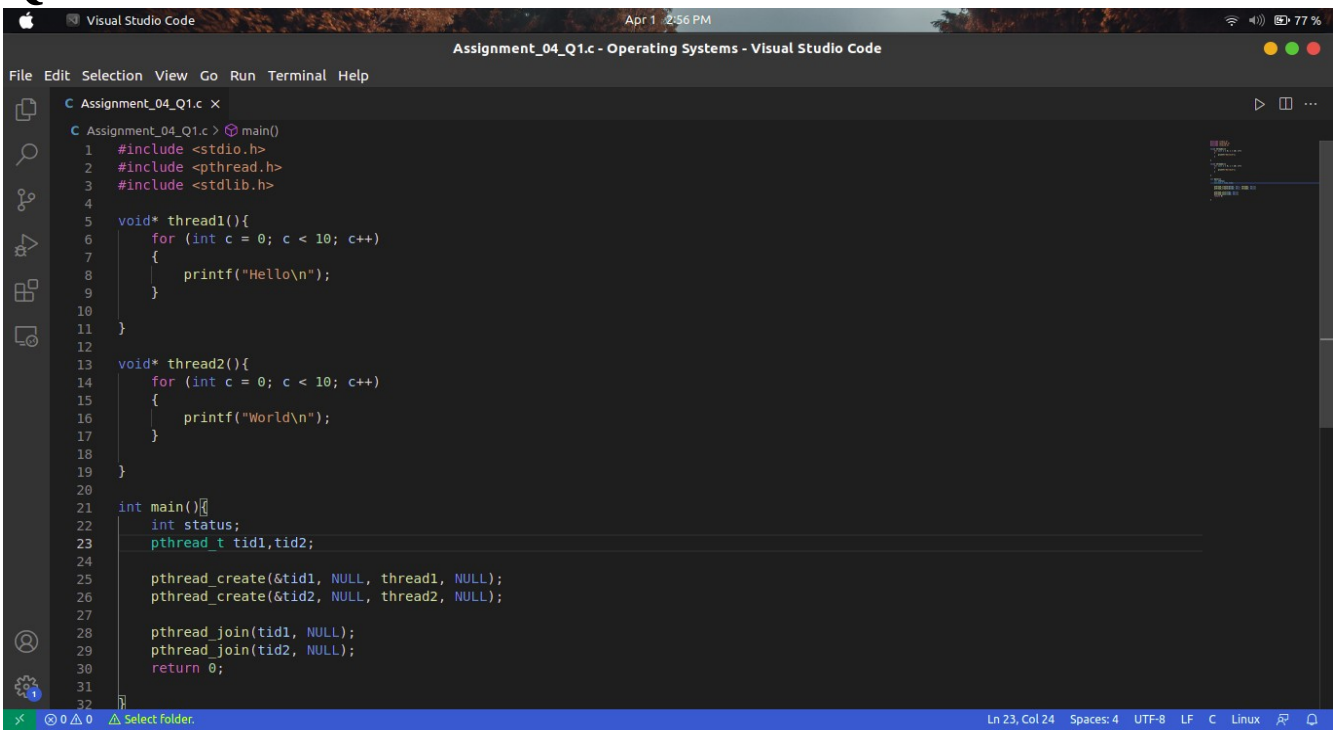
Subhan Khalid
P200086 BSCS 4A

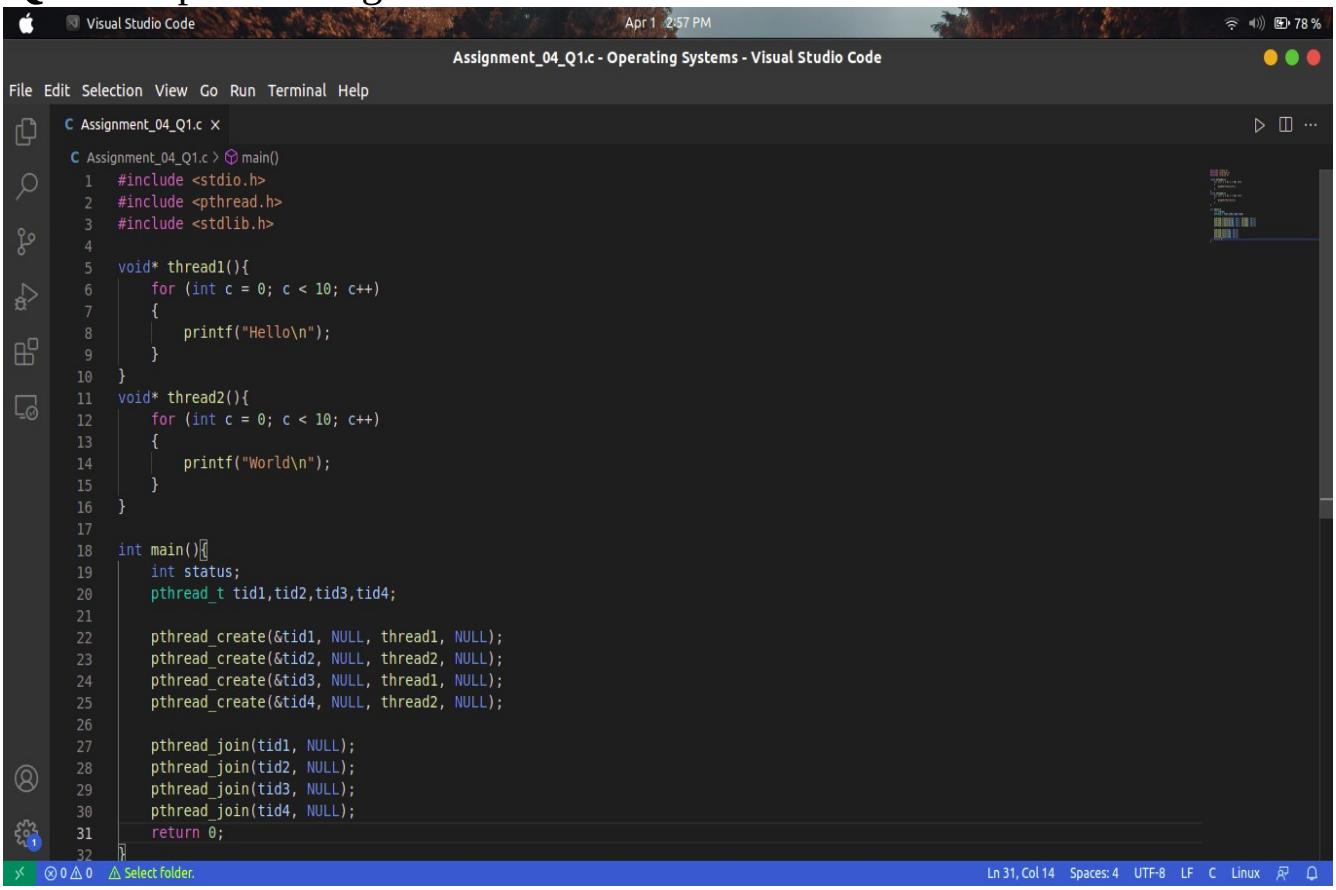
Q1.1:



OUTPUT

```
abdul@abdul-HP-EliteBook-840-G4:~/Documents/BSCS-4_semester/Operating Systems$ gcc Assignment_04_Q1.c -o Assignment_04_Q1 -lpthread
abdul@abdul-HP-EliteBook-840-G4:~/Documents/BSCS-4_semester/Operating Systems$ ./Assignment_04_Q1
World
World
World
World
World
World
World
World
World
World
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
abdul@abdul-HP-EliteBook-840-G4:~/Documents/BSCS-4_semester/Operating Systems$
```

Q1.2:-Updated Program

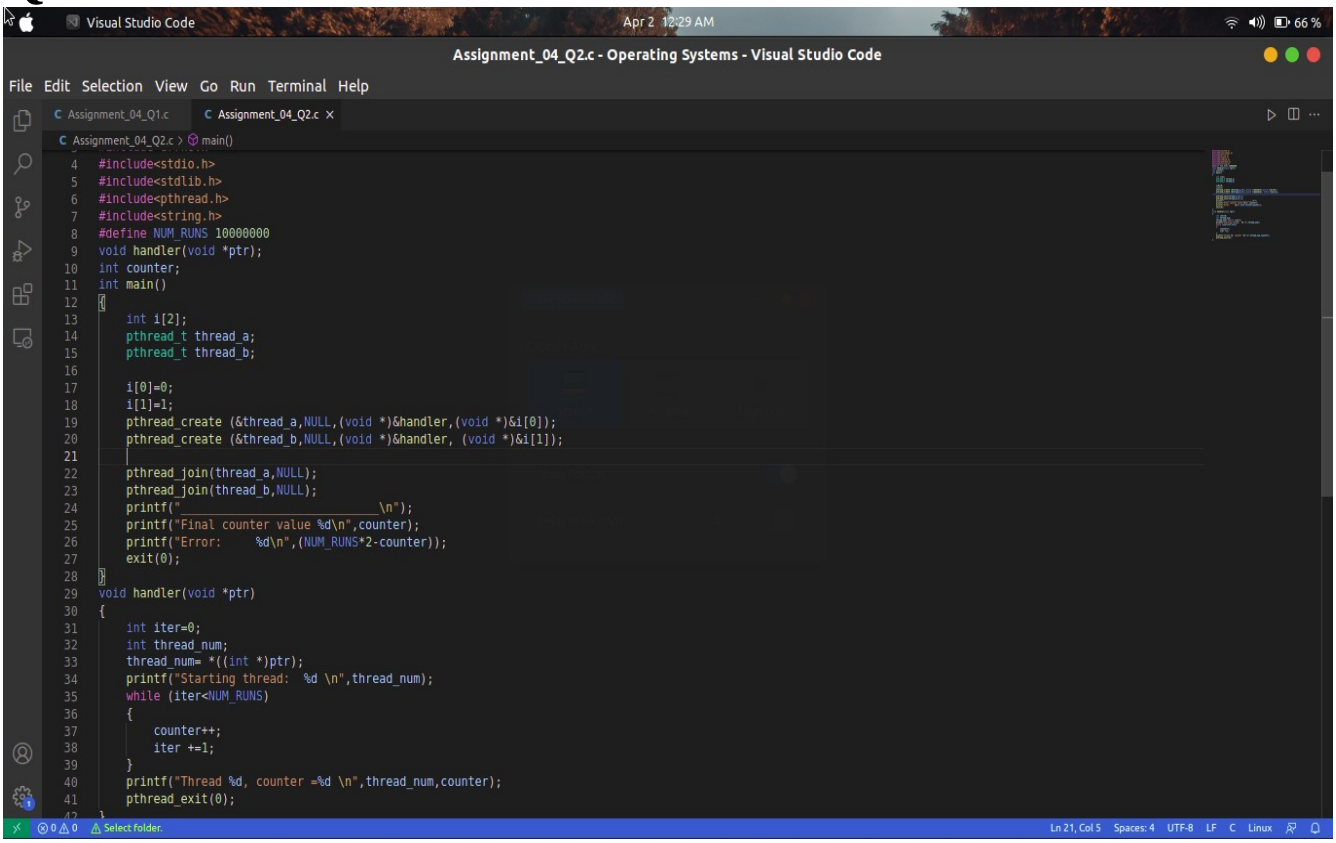


OUTPUT

```
abdul@abdul-HP-EliteBook-840-G4:~/Documents/BSCS-4_semester/Operating Systems$ gcc Assignment_04_Q1.c -o Assignment_04_Q1 -lpthread
abdul@abdul-HP-EliteBook-840-G4:~/Documents/BSCS-4_semester/Operating Systems$ ./Assignment_04_Q1
Hello
Hello
Hello
Hello
Hello
Hello
Hello
World
World
World
Hello
World
Hello
World
World
World
Hello
Hello
Hello
Hello
World
World
Hello
World
World
Hello
Hello
Hello
World
World
World
World
World
Hello
Hello
World
World
World
Hello
```

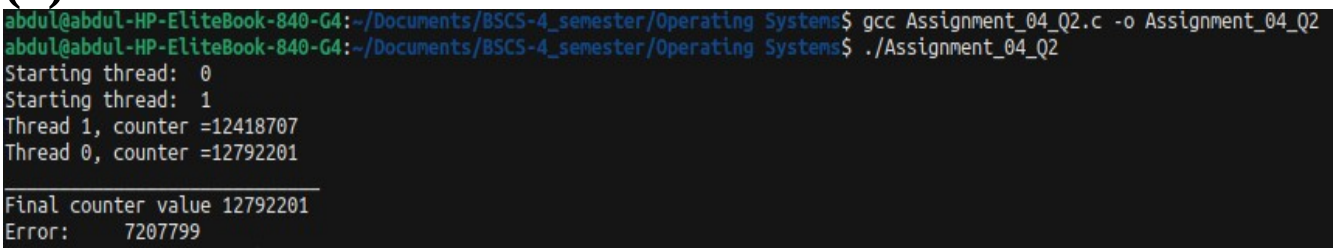
```
abdul@abdul-HP-EliteBook-840-G4:~/Documents/BSCS-4_semester/Operating Systems$ gcc Assignment_04_Q1.c -o Assignment_04_Q1 -lpthread
abdul@abdul-HP-EliteBook-840-G4:~/Documents/BSCS-4_semester/Operating Systems$ ./Assignment_04_Q1
Hello
Hello
Hello
Hello
World
World
World
World
World
World
World
World
World
World
World
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
World
World
World
World
World
World
World
World
World
World
```

Q2:-



OUTPUT

(a)



(b)

i. What should be the value of the counter variable at the end?

Ans:

The value of counter variable should be 2 times of **“NUM_RUNS”** because **“NUM_RUNS”** variable call 2 times in the code

ii. What is the value you get?

Ans:

Value = 12792201

iii. How large is the error and how much does it vary on different runs?

Ans:

(i)Error is in Millions

(ii)Error varies in lac's

iv. How much user time (roughly) does the program take to run on your system?

Ans:

usr = 0.124s