

OS HW3 Programming exercises

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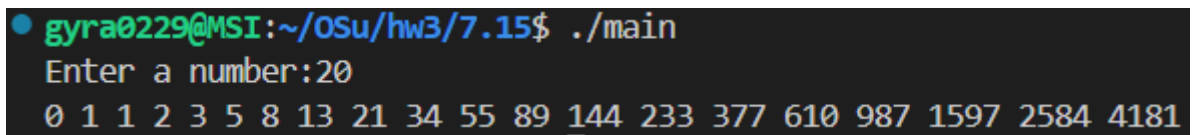
Environment

- OS: Ubuntu 22.04
- Kernel: Linux 5.15.153.1-microsoft-standard-WSL2
- Compiler: gcc 11.4.0

7.15

Commands

```
cd 7.15
gcc main.c -pthread -o main
./main
20
```

A terminal window showing the execution of a program. The prompt is 'gyra0229@MSI:~/OSu/hw3/7.15\$'. The user enters './main'. The program prompts 'Enter a number:20'. The output is a sequence of numbers: '0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181'.

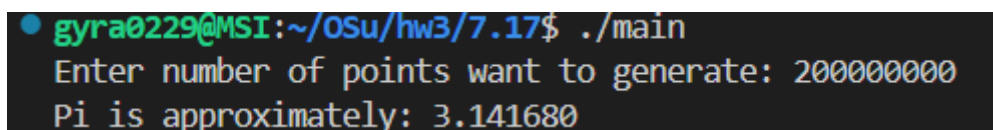
```
● gyra0229@MSI:~/OSu/hw3/7.15$ ./main
Enter a number:20
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181
```

Figure 1: The result for ./main in 7.15

7.17

Commands

```
cd 7.17
gcc main.c -pthread -o main
./main
200000000
```

A terminal window showing the execution of a program. The prompt is 'gyra0229@MSI:~/OSu/hw3/7.17\$'. The user enters './main'. The program prompts 'Enter number of points want to generate: 200000000'. The output is 'Pi is approximately: 3.141680'.

```
● gyra0229@MSI:~/OSu/hw3/7.17$ ./main
Enter number of points want to generate: 200000000
Pi is approximately: 3.141680
```

Figure 2: The result for ./main in 7.17

8.32

Commands

```
cd 8.32
gcc main.c -pthread -o main
./main
10
```

```
● gyra0229@MSI:~/OSu/hw3$ ./main
Enter the number of farmers: 10
A South farmer crossing the bridge.
A South farmer crossing the bridge.
A South farmer crossing the bridge.
A South farmer crossing the bridge.
A South farmer crossing the bridge.
A South farmer crossing the bridge.
A North farmer crossing the bridge.
A North farmer crossing the bridge.
A North farmer crossing the bridge.
A North farmer crossing the bridge.
```

Figure 3: The result for ./main in 8.32

9.28

Commands

```
cd 9.28
gcc main.c -pthread -o main
./main 19986
```

```
● gyra0229@MSI:~/OSu/hw3/9.28$ gcc main.c -o main
● gyra0229@MSI:~/OSu/hw3/9.28$ ./main 19986
The address 19986 contains:
page number=4
offset=3602
```

Figure 4: The result of 9.28