Lab 1 report

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1 Task 1: Learning how to write a Makefile

Contents of makefile:

```
APP=lab1
all:
	gcc -pg ${APP}.c -o ${APP}
run:all
	./${APP}
clean:
	rm ${APP}
```

2 Task 2: Using gettimeofday to measure performance

Following the Lab 1 instruction video, I ran the code with 3 different input values (1000, 10000, and 100000), and I used gettimeofday() function to get the elapsed time. So the output time below is the average time of 10 times which I ran the myLoop function. I also attached the code file to the submission.

1. Input: 1000, Output: 0.000003 SECONDS
2. Input: 10000, Output: 0.000029 SECONDS
3. Input: 100000, Output: 0.000253 SECONDS

3 Task 3: Performance profiling with gprof

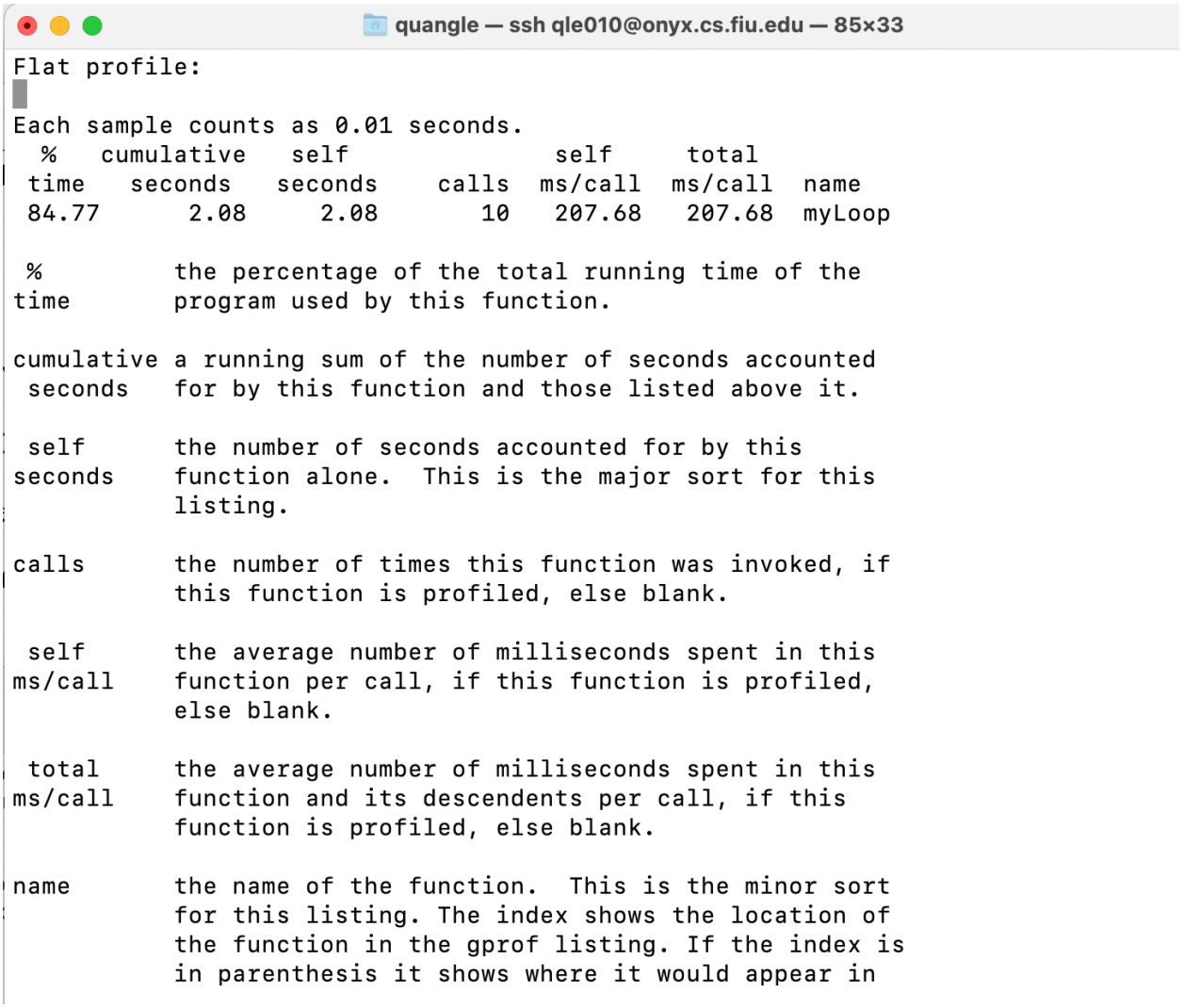
For this task, I followed the Lab 1 instruction video, and I changed the input value to 100,000,000. Then, I got the below result.

3.1 Task 3.1:

The topmost time consuming routines are: (Flat profile)

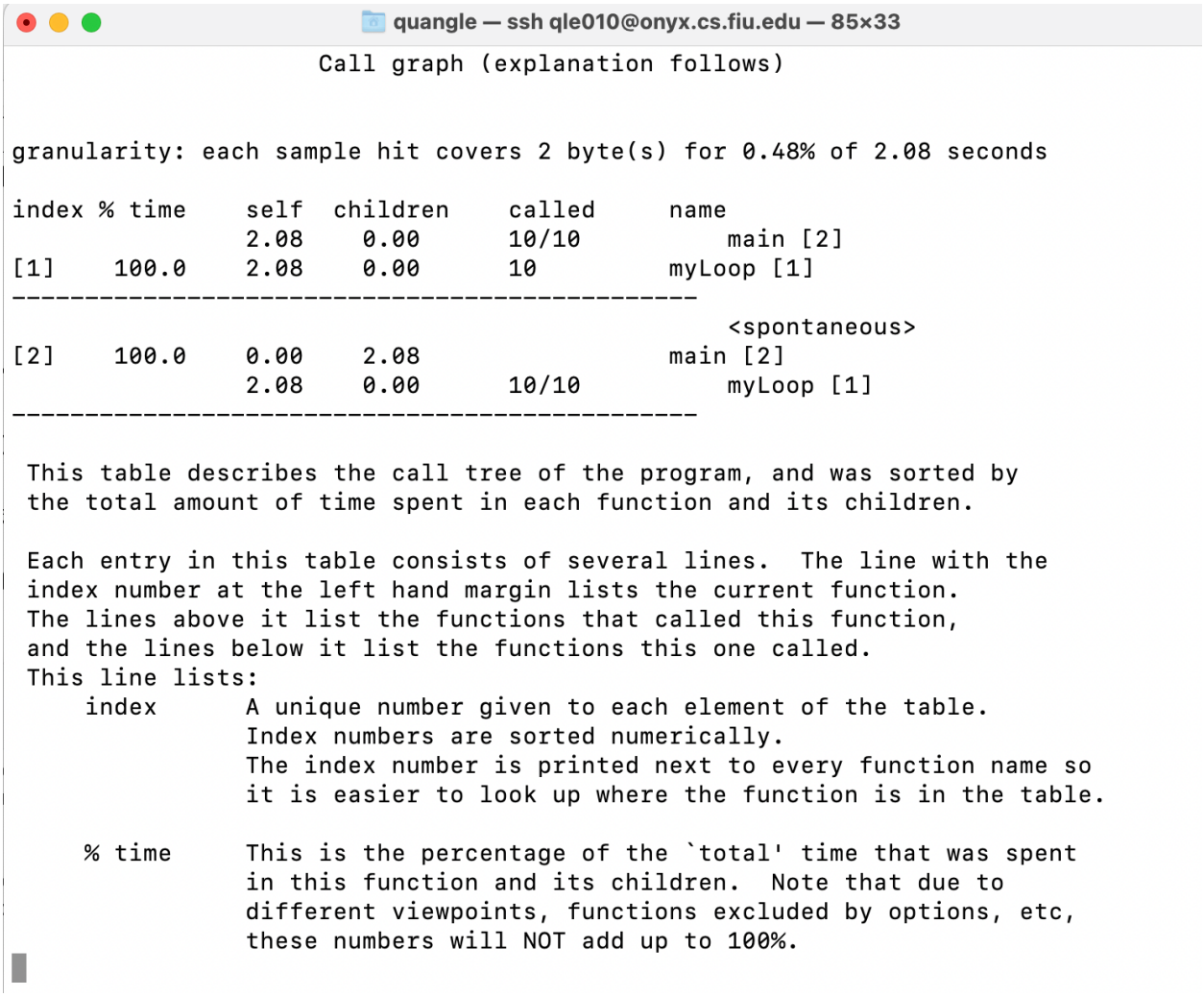
- myLoop: 84.77% of time ~ 2.08 seconds

output:



3.2 Task 3.2:

Output: (Call graph)



- **myLoop** spawns no children, 2.08 seconds spent here.
- **main** spawns 1 children (myLoop), 2.08 seconds spent here.