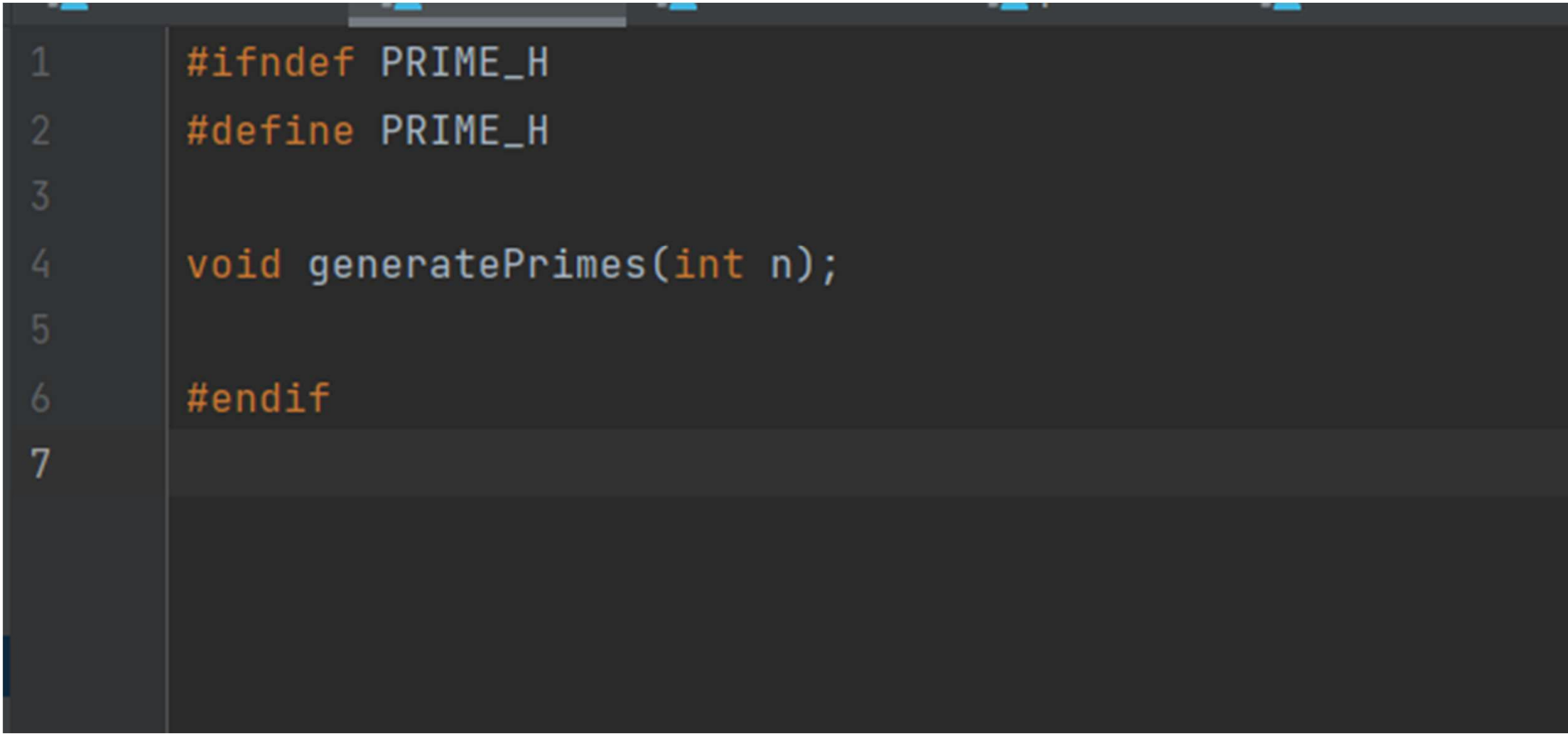
UNIX

LINKING OF STATIC AND DYNAMIC LIBRARES

CODES

TO GENERATE NUMBERS OF DIFFERENT SERIES

```
#ifndef FIBONACCI_H
#define FIBONACCI_H

void generateFibonacci(int n);

#endif
```

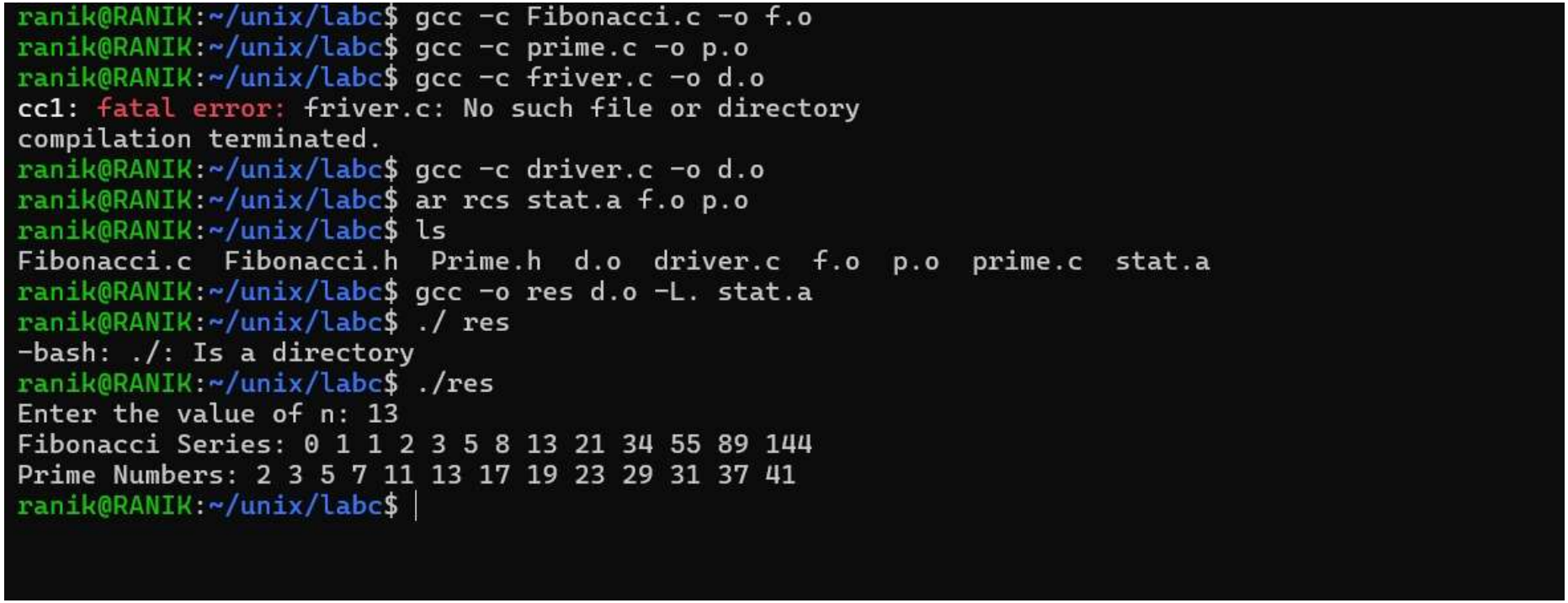

1 #ifndef PRIME_H
2 #define PRIME_H
3
4 void generatePrimes(int n);
5
6 #endif
7

```c
#include <stdio.h>
#include "Fibonacci.h"

void generateFibonacci(int n) {
    int first = 0, second = 1, next;
    printf("Fibonacci Series: ");
    for (int i = 0; i < n; i++) {
        printf("%d ", first);
        next = first + second;
        first = second;
        second = next;
    }
    printf("\n");
}

```

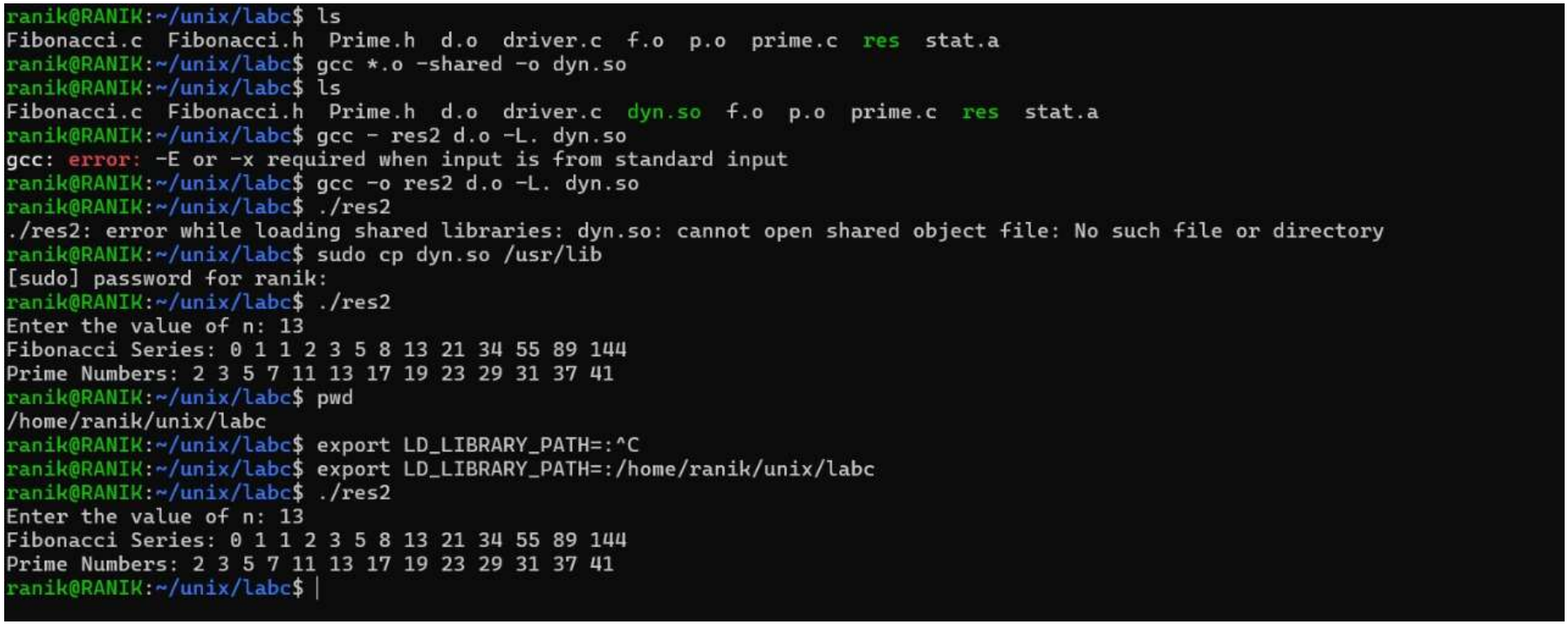
```c
#include <stdio.h>
#include "Prime.h"

int isPrime(int num) {
    if (num <= 1) return 0;
    for (int i = 2; i * i <= num; i++) {
        if (num % i == 0) return 0;
    }
    return 1;
}

void generatePrimes(int n) {
    printf("Prime Numbers: ");
    for (int i = 2, count = 0; count < n; i++) {
        if (isPrime(i)) {
            printf("%d ", i);
            count++;
        }
    }
    printf("\n");
}

```

```c
#include <stdio.h>
#include "Fibonacci.h"
#include "Prime.h"

int main() {
    int n;
    printf("Enter the value of n: ");
    scanf("%d", &n);

    generateFibonacci(n);
    generatePrimes(n);

    return 0;
}
```

STATIC


ranik@RANIK:~/unix/labc$ gcc -c Fibonacci.c -o f.o
ranik@RANIK:~/unix/labc$ gcc -c prime.c -o p.o
ranik@RANIK:~/unix/labc$ gcc -c friver.c -o d.o
cc1: fatal error: friver.c: No such file or directory
compilation terminated.
ranik@RANIK:~/unix/labc$ gcc -c driver.c -o d.o
ranik@RANIK:~/unix/labc$ ar rcs stat.a f.o p.o
ranik@RANIK:~/unix/labc$ ls
Fibonacci.c Fibonacci.h Prime.h d.o driver.c f.o p.o prime.c stat.a
ranik@RANIK:~/unix/labc$ gcc -o res d.o -L. stat.a
ranik@RANIK:~/unix/labc$ ./ res
-bash: ./: Is a directory
ranik@RANIK:~/unix/labc$ ./res
Enter the value of n: 13
Fibonacci Series: 0 1 1 2 3 5 8 13 21 34 55 89 144
Prime Numbers: 2 3 5 7 11 13 17 19 23 29 31 37 41
ranik@RANIK:~/unix/labc$

DYNAMIC


ranik@RANIK:~/unix/labc$ ls
Fibonacci.c Fibonacci.h Prime.h d.o driver.c f.o p.o prime.c res stat.a
ranik@RANIK:~/unix/labc$ gcc *.o -shared -o dyn.so
ranik@RANIK:~/unix/labc$ ls
Fibonacci.c Fibonacci.h Prime.h d.o driver.c dyn.so f.o p.o prime.c res stat.a
ranik@RANIK:~/unix/labc$ gcc - res2 d.o -L. dyn.so
gcc: error: -E or -x required when input is from standard input
ranik@RANIK:~/unix/labc$ gcc -o res2 d.o -L. dyn.so
ranik@RANIK:~/unix/labc$ ./res2
./res2: error while loading shared libraries: dyn.so: cannot open shared object file: No such file or directory
ranik@RANIK:~/unix/labc$ sudo cp dyn.so /usr/lib
[sudo] password for ranik:
ranik@RANIK:~/unix/labc$ ./res2
Enter the value of n: 13
Fibonacci Series: 0 1 1 2 3 5 8 13 21 34 55 89 144
Prime Numbers: 2 3 5 7 11 13 17 19 23 29 31 37 41
ranik@RANIK:~/unix/labc$ pwd
/home/ranik/unix/labc
ranik@RANIK:~/unix/labc$ export LD_LIBRARY_PATH=:^C
ranik@RANIK:~/unix/labc$ export LD_LIBRARY_PATH=:/home/ranik/unix/labc
ranik@RANIK:~/unix/labc$ ./res2
Enter the value of n: 13
Fibonacci Series: 0 1 1 2 3 5 8 13 21 34 55 89 144
Prime Numbers: 2 3 5 7 11 13 17 19 23 29 31 37 41
ranik@RANIK:~/unix/labc$

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