Assignment 8: POSIX Threads

Implementing POSIX threads in a C program:

C function used to create POSIX threads:

#include <pthread.h>

void* start_routine(void *);

int pthread_create(pthread_t *thread, const pthread_attr_t *attr, void *(*start_routine) (void *), void *arg);

C function used to wait for POSIX threads to end and rejoin parent process:

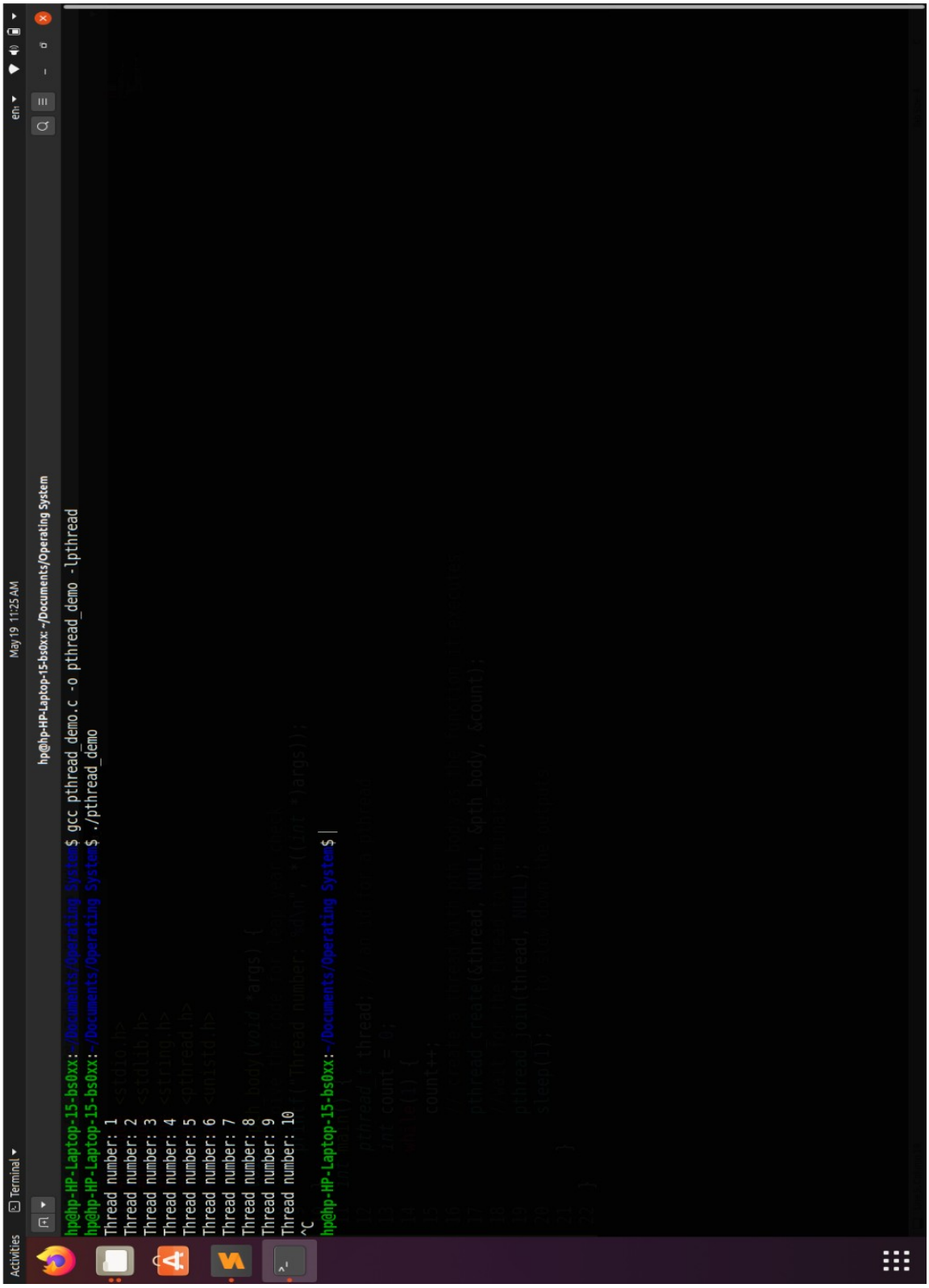
#include <pthread.h>

int pthread_join(pthread_t thread, void **retval);

Sample code:

```
void* pth_body(void *args) {
// here give the code for leap year check
	printf("Thread number: %d\n", *((int *)args));
}
int main() {
	pthread_t thread; // an id for a pthread
	int count = 0;
	while(1) {
		count++;
		// create a thread with pth_body as the function it executes
		pthread_create(&thread, NULL, &pth_body, &count);
		//wait for the thread to terminate
		pthread_join(thread, NULL);
		sleep(1); // to slow down the outputs
	}
}
```

Output:


Activities
Terminal
May 19 11:25 AM
en
hp@hp-HP-Laptop-15-bs0xx: ~/Documents/Operating System
hp@hp-HP-Laptop-15-bs0xx:~/Documents/Operating Systes$ gcc pthread_demo.c -o pthread_demo -lpthread
hp@hp-HP-Laptop-15-bs0xx:~/Documents/Operating Systes$ ./pthread_demo
Thread number: 1
Thread number: 2
Thread number: 3
Thread number: 4
Thread number: 5
Thread number: 6
Thread number: 7
Thread number: 8
Thread number: 9
Thread number: 10
^C
hp@hp-HP-Laptop-15-bs0xx:~/Documents/Operating Systes$