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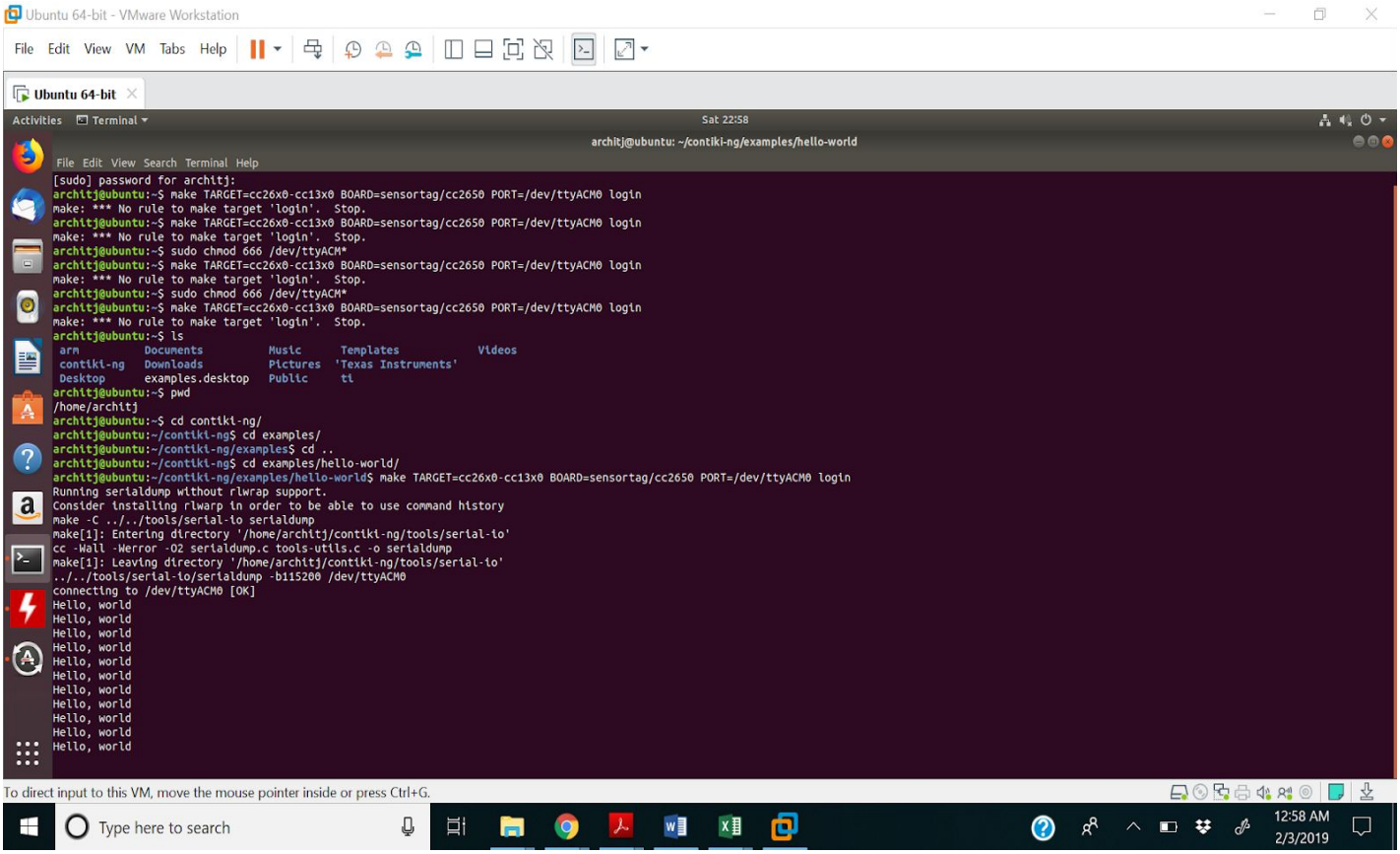
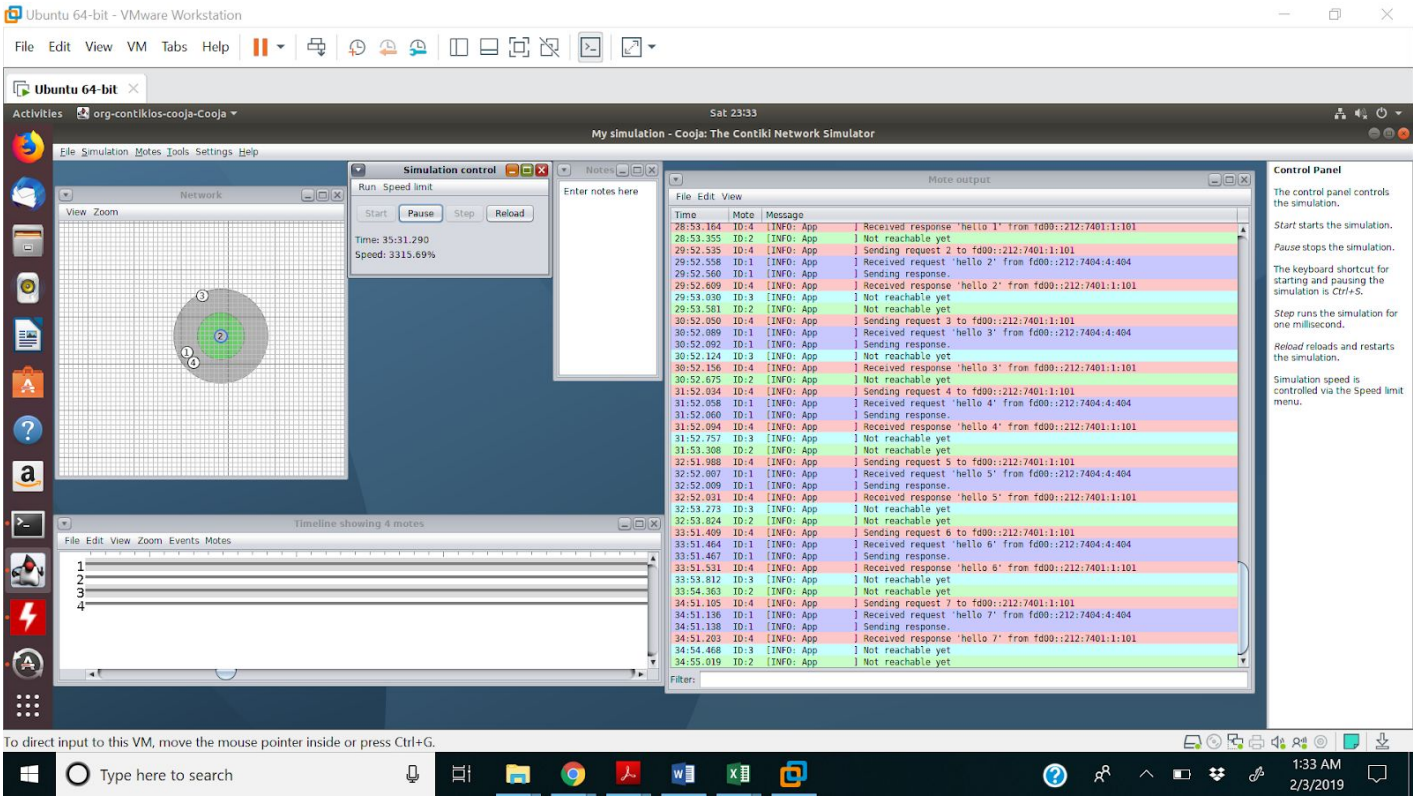
Cpr E 546: Programming Assignment 1

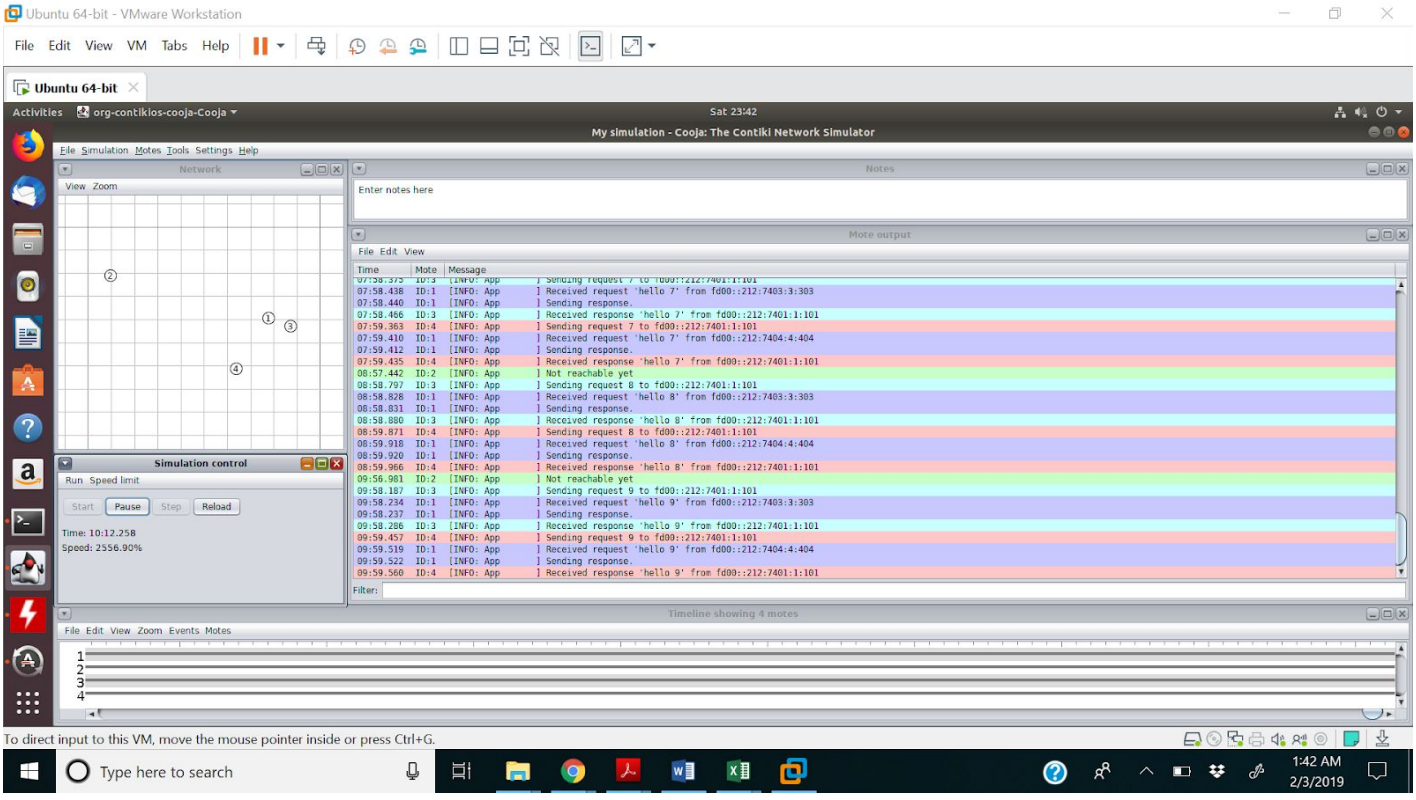
Exercise 1

Mote output from hello-world.c



Mote Output view from Cooja simulation

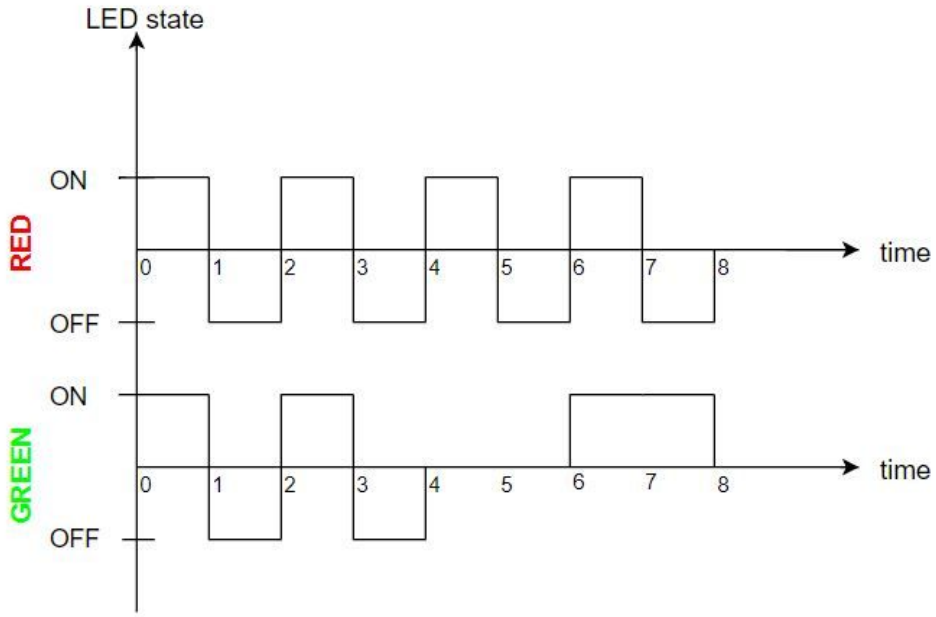




Exercise 2

Write a description of the control flow of the leds-example.c application. You may draw a figure if helpful. Your description should answer the following questions:

Periodic behavior of LEDs with the period of 8 sec:



1) Which code in leds-example.c executes first?
The line **static struct etimer et;** in leds-example.c will execute first.

2) When is leds_set() first called?
led_set() is first called during the following line when the while(1) loop is entered for the first time,

```
 if((counter & 7) == 0) {
       leds_set(LEDS_ALL);
     }
```

3) When is leds_set() called for the second time?
In the second iteration of while(1) loop, leds_set() called for the second time.

4) What is the purpose of the PROCESS_YIELD() statement?

The PROCESS_YIELD() allows other processes to execute till an event addressed to current process appears. PROCESS_YIELD pauses the current process and gives way to those who are waiting in the queue.

5) What event causes control to return to the process after PROCESS_YIELD() has been called?

The timer event (PROCESS_EVENT_TIMER) counts the time specified in the argument, which is CLOCK_SECOND i.e. 1 sec here. PROCESS_EVENT_TIMER causes control to return to the process as its job of counting the time has been completed.