Counting Semaphore example

```
#include <Arduino_FreeRTOS.h>
#include <semphr.h>
#include<task.h>


static SemaphoreHandle_t lock;
TaskHandle_t myTaskM=NULL;

//*************************************************************************
***
// Tasks

// Blink LED based on rate passed by parameter
void blinkLED(void* delay_arg) {

  // Copy the parameter into a local variable
  long int n = (long int)delay_arg;

  TickType_t timestamp;
  // Print the parameter
  Serial.print("Received: ");
  Serial.println(n);


  // Blink forever and ever

  while (1) {
    xSemaphoreTake(lock,portMAX_DELAY);
    Serial.println("HIGH");
     vTaskDelay(n / portTICK_PERIOD_MS);
    Serial.println("LOW");
    vTaskDelay(n / portTICK_PERIOD_MS);
  }
}

void setup() {

  long int delay_arg;

  // Configure Serial
  Serial.begin(9600);

  // Wait a moment to start (so we don't miss Serial output)
  //vTaskDelay(1000 / portTICK_PERIOD_MS);
  Serial.println();
  Serial.println("---FreeRTOS Mutex Challenge---");
  Serial.println("Enter a number for delay (milliseconds)");
```

```
  // Wait for input from Serial
  while (Serial.available() <= 0);

  // Read integer value
  delay_arg = Serial.parseInt();
  Serial.print("Sending: ");
  Serial.println(delay_arg);
lock = xSemaphoreCreateCounting(5,4);
Serial.println("Semaphore Value at start ");
    Serial.println(uxSemaphoreGetCount(lock));

  xTaskCreate(blinkLED,"Blink LED",128,(void*)delay_arg,1,&myTaskM);

  // Show that we accomplished our task of passing the stack-based argument
  Serial.println("Done!");
}

void loop() {
   // vTaskDelay(1000 / portTICK_PERIOD_MS);
   }
```