

## Lab5\_Report

### 1. What is the difference between preemptive and cooperative scheduling?

The difference between preemptive and cooperative scheduling is the interrupt. In preemptive scheduling can higher priority tasks interrupt other tasks while executing even before they finish. But in Cooperative scheduling the higher priority tasks cannot interrupt the other tasks while they are executing.

### 2. What is the difference between `vTaskDelay ()` and `vTaskDelayUntil ()`?

Both functions do their jobs by blocking the execution for a time that we decide.

- `vTaskDelay ()` takes only one argument which is how long time we want to block the execution. This function does not block for the exact provided time, it blocks for 2-5ms extra.
- `vTaskDelayUntil ()` do the same job but takes two arguments and blocks for the exact provided time.

### 3. Design of Assignment 2(Priority inversion)

We create 3 tasks: high, medium and low, with the same priority as the name. Due to the delay in High and low priority task, the low priority task will be running first. When it's time for the High priority task to run, it will be blocked by the semaphore taken by the Low priority task. When the Low priority task finally gives back the semaphore, the High priority task resumes its execution, but misses the deadline.

