HW2: Diagramming Scheduling Algorithms (Individual) 10pts.

Instructions: Using the diagramming worksheet from class, diagram out the following through t=8ms. Also, indicate if all the deadlines are met or not. Submit a scanned copy (or legible photograph) of your two worksheets (pdf preferred, but jpg is OK).

1.

Consider the following three tasks with a synchronized, non-preemptive, round robin scheduler.

- Task A: C = 200 µs, P=1.0ms, D=P.
- Task B: C = 200 µs, P=2.0ms, D=P.
- Task B: C = 200 µs, P=2.0ms, D=P.

Make the following assumptions:
- The scheduler may not run a task if the task has completed its computation but has not yet reached its period (i.e., synchronous)
- If no task can run, the scheduler waits until a task can run.
- Periods are only measured by OS time ticks. (integer multiples of 1ms.)
- The scheduler takes 100 µs of CPU time.
- Assume the scheduler starts for the first time at t = 0.
2.

Consider the following three tasks with a non-preemptive, round robin scheduler. In this scheduler, if a task issues the command OS_delay(int d), the scheduler will immediately run and will not restart that task until at least d time ticks have passed.

- Task A: C = 233 µs, P=2.0ms., D=2.
- Task B: C = 233 µs, P=1.0ms., D=1.
- Task C: The structure of Task C is
  
  ```
  for(i=0;i<3;i++) {
    compute for 233 usec.;
    OS_delay(2);
  }
  Halt();
  ```

Make the following assumptions:

- The scheduler may not run a task if the task has completed its computation but has not yet reached its period (i.e., synchronous)
- If no task can run, the scheduler waits until a task can run.
- Periods and delay values are only measured by OS time ticks. (integer multiples of 1ms.)
- The scheduler takes 100 µs of CPU time.
- Assume the scheduler starts for the first time at t = 0.