EE 4770 Homework 3 Due: 22 April 1966

The three tasks described in the table below are run on an otherwise empty system.

Task Name	Creation Time	Run Time	I/O	Deadline
A	0	33	(20,10)	45
B	10	11	None	55
C	22	9	None	40

The (20,10) entry in the I/O column indicates that after 20 units of CPU time, Task A performs an I/O operation that takes 10 units to complete.

Problem 1: For each part below show the state of each task and the CPU from $t = 0$ until the last task finishes. Do not show time spent in privileged mode (assume it is infinitesimal).

Part 1: The system uses deadline scheduling and is task preemption.

Part 2: The system uses deadline scheduling, has a quantum of 10 and is not task-preemptive. (This may cause tasks to miss deadlines.)

Problem 2: A system using deadline scheduling and task preemption runs the tasks described in the table above. Change the arrival time for Task C so that Task A is forced to miss its deadline (using deadline scheduling) while an "intelligent" scheduler (*e.g.*, an EE 4770 student) could schedule the tasks so that all deadlines are met. Show such a schedule.