Computer Systems Engineering Technology
CST 347 – Real Time Operating Systems

HW 1b Name_____

Possible Points: 12

Instructions

Answer the following homework questions.

Procedure

1. (10 Pts) Consider the following set of processes, with the length of the CPU burst time given in milliseconds:

Process	Burst Time	Priority
P_1	10	3
P_2	1	1
P_3	2	3
P_4	1	4
P_5	5	2

The processes are assumed to have arrived in the order P_1, P_2, P_3, P_4, P_5, all at time 0.

a) Draw four Gantt charts that illustrate the execution of these processes using the following scheduling algorithms: FCFS, SJF, nonpreemptive priority (a smaller priority number implies a higher priority), and RR (quantum = 1).

b) What is the turnaround time of each process for each of the scheduling algorithms in part a?

c) What is the waiting time of each process for each of these scheduling algorithms?

d) Which of the algorithms results in the minimum average waiting time (over all processes)?

2. (2 Pts) Which of the following scheduling algorithms could result in starvation?

a) First-come, first-served
b) Shortest job first
c) Round robin
d) Priority