CS630: Homework #3

This assignment is due by 02/24.
Homework should send to hung@njit.edu
Via email with a subject line read as: CS630/002 HW#03

Assume that the execution of each process is divided into a sequence of CPU bursts. Assume that P1, P2 and P3 are three processes in the system and they all arrived before $t=0$. Their sequences of CPU bursts are specified as the following:

- $P_1$: {2, 1, 2},
- $P_2$: {1, 2, 2}, and
- $P_3$: {3, 1, 1}.

a) Assume that they have the same $\alpha$-value: $\alpha=0.5$. Use the following formula to evaluate the $(n+1)$-th CPU burst time:

$$\tau_{n+1} = \alpha \cdot t_n + (1 - \alpha) \cdot \tau_n$$

and $t_0=0$ and $\tau_0=5$ for all processes. Draw a Gantt chart to illustrate the scheduling of these processes if a shortest-job-first schedule algorithm is used.

b) Then, assume that they have different $\alpha$-value: $\alpha(P1)=0.45$, $\alpha(P2)=0.5$, and $\alpha(P3)=0.55$ and redo the whole thing.