CS 3733 Sample Process Scheduling Problem

Consider two processes, each with two CPU bursts with one I/O burst in between.
Process 1 has a CPU burst of 9 units followed by an I/O burst of 7 units and a CPU burst of 6 unit.
Process 2 has a CPU burst of 2 units followed by an I/O burst of 1 units and a CPU burst of 5 units.
Suppose that Process 1 arrives in the ready queue just before Process 2 and just after Process 2 arrives the process that was in the CPU terminates. No other processes are in the system. For each of the scheduling algorithms below create Gantt charts like you did for assignment 2. Fill each box with the state of the corresponding process. Use R for running, W for waiting, and r for ready. Calculate the waiting times and CPU utilization (as a fraction) for each process and fill in the table below.

a) First-Come/First-Served
b) Shortest Job First (non-preemptive)
c) Preemptive Shortest Job First
d) Round Robin with a quantum of 3.

Gantt Charts:

a) FCFS

					5					10					15					20					25					30				
Process 1																																		
Process 2																																		

b) SJF

					5					10					15					20					25					30				
Process 1																																		
Process 2																																		

c) PSJF

					5					10					15					20					25					30				
Process 1																																		
Process 2																																		

d) RR 3

					5					10					15					20					25					30				
Process 1																																		
Process 2																																		

Algorithm	CPU Utilization	Waiting Time			Time Finished	
		Process 1	Process 2	Average	Process 1	Process 2
a) FCFS						
b) SJF						
c) PSJF						
d) RR 3						