**Operating System Lab # 9**

Design preemptive and non-preemptive SJF (Shortest Job First) CPU scheduler  
You have to (1) compute various performance measures (turnaround time,   
waiting time, throughput)   
(2) analyze the behavior of your scheduler.

Process data is to be read in from a file in a standard format.    
Assume that there is only one CPU and one I/O device in the system. The I/O device can be assumed to be sequential ,i.e., serves only one process at a time.

Test Data:

Test process data files have the following format:

0 100 2 200 3 25 -1    *i.e.  P1 : arrival time (0)  CPU burst (100) I/O burst (2) .. CPU burst (25)*   
5 6 2 25 2 25 2 25 -1        *P2 : arrival time (5)  ....*   
Assume that every line ends with -1

*The arrival times are in nondecreasing order*

*A process may have any number of CPU / I/O burst cycles terminated with a -1.*   
*There will be any number of processes, terminated by an end of file .*

*Test case-1*

0 100 2 90 2 80 3 70 2 60 2 10 -1

2 80 2 80 2 50 3 70 2 40 2 10 -1

3 70 2 70 2 40 3 70 2 20 2 10 -1

4 10 2 60 2 30 3 70 2 10 2 10 -1

5 3 2 3 2 3 -1

6 5 -1

10 200 2 3 -1

Testcase-2

0 5 -1

1 3 2 3 2 3 -1

6 10 2 60 2 30 3 70 2 10 2 10 -1

23 3 2 3 2 3 -1

24 70 2 70 2 40 3 70 2 20 2 10 -1

25 3 2 3 2 3 -1

26 80 2 80 2 50 3 70 2 40 2 10 -1

27 3 2 3 2 3 -1

28 25 2 10 -1

29 3 2 3 2 3 -1

31 3 2 3 2 3 -1

33 3 2 3 2 3 -1

35 3 2 3 2 3 -1

40 3 2 3 2 3 -1

40 3 2 3 2 3 -1

42 3 2 3 2 3 -1

43 3 2 3 2 3 -1

45 3 2 3 2 3 -1