

Assignment 6

Operating System Lab (CS342)

Department of CSE, IIT Patna

Date:- 15-February-2022

Deadline:- 15-February, 2022 11.59PM

Instructions:

1. All the assignments should be completed and uploaded before the deadline. Marks will be deducted for the submissions made after the deadline.
2. Markings will be based on the correctness and soundness of the outputs. Marks will be deducted in case of plagiarism.
3. Proper indentation & appropriate comments (if necessary) are mandatory. [2+2 marks]
4. You should zip all the required files and name the zip file as roll_no.zip, eg. 1501cs11.zip.
5. Provide a **readme** file with all the execution details (commands to execute) of the codes and outputs/observations (if necessary).
6. Upload your assignment (the zip file) in the following link:
<https://www.dropbox.com/request/pk6KiY9HDWN4ugnUED3q>

There are changes in the submission format. Please read all instructions below carefully.

For all the questions input and output format will be same:

The First line of input will contain a number specifying total processes (n). n line follows, ith line contains two space separated integers specifying arrival_time and burst_time of ith Process.

Your program should output two lines. First line contains two space separated values (rounded off to 2 decimal places) specifying average waiting time (WT) and the turn-around time(TAT).

Second line contains space separated process ids of n processes, specifying completion order of the processes.

For question 2, you have to add another column in the input to keep the priority value of the corresponding process.

Ex:

Input:

n = 3

0 5

1 7

3 4

Output:

4.33 11.00

P1 P2 P3

Q1. Consider the n processes, P1, P2.. Pn. Write a program to find out the average waiting time (WT), turn-around time(TAT) and the completion order of the processes using **FCFS** scheduling algorithm (in case of conflict, the process with smaller process id will execute first).

Q2. Consider the n processes, P1, P2.. Pn. Write a program to find out the average waiting time (WT), turn-around time (TAT) and the completion order of the processes using **Round Robin** (RR) scheduling.

Q3: Consider the n processes, P1, P2.. Pn. Write a program to find out the average waiting time (WT), turn-around time (TAT) and the completion order of the processes using **Non preemptive Priority** scheduling algorithm (the lower the priority number, the higher is the priority of the process).

Q4. Consider n processes, P1, P2 .. Pn. Write a program to find out the average Waiting Time (WT), the Turn-around Time(TAT) and the completion order of the processes using **Highest remaining time first** (preemptive) scheduling algorithm (in case of conflict, the process with smaller process id will execute first).