GA2: Job Scheduling Problem

You will have a list of burst time, and quantum time. Burst time is the total time to complete the job, and quantum time is the time that each job will get at a time to execute from the cpu. You need to find the waiting time for each job to complete. Let's check the example to understand it easily. You will always consider the quantum time is 2 ms. All values in input file are burst time and in ms unit.

Example 01:
Input1.txt
3 1 5

Command:
JobScheduling input=input1.txt output=output1.txt

Output:
Job 1, burst time: 3, waiting time: 3
Job 2, burst time: 1, waiting time: 2
Job 3, burst time: 5, waiting time: 4

Explanation:
Initially,
3 1 5
So, the cpu will first execute job 1 for 2 milliseconds. Then it will switch to job 2, so for job 2 the waiting time is 2, as the cpu can finish the job 2 completely. Then the cpu will switch to job 3 and will execute for 2 seconds. At this stage job 3 got 3 seconds waiting time.
Now, the remaining burst times are,
1 0 3
Now, the cpu again switch to job 1, and will complete the job. So, for job 1 the total waiting time is 3 (1 for execution time of job_2 + 2 for execution time of job_3). Now the cpu will move to job 3, and will complete the job as there is no

other job remaining. So, the total waiting time for job 3 is 4 (2 (job 1) + 1 (job 2) + 1 (job 1)).

Example 02:
Input2.txt
9 3 5 8 10

Command:
JobScheduling input=input2.txt output=output2.txt

Output2.txt:
Job 1, burst time: 9, waiting time: 24
Job 2, burst time: 3, waiting time: 10
Job 3, burst time: 5, waiting time: 17
Job 4, burst time: 8, waiting time: 22
Job 5, burst time: 10, waiting time: 25

Example 03:
Input3.txt:
15 30 15

Command:
JobScheduling input=input3.txt output=output3.txt

Output3.txt:
Job 1, burst time: 15, waiting time: 28
Job 2, burst time: 30, waiting time: 30
Job 3, burst time: 15, waiting time: 31

You can get maximum 100 jobs in a single file to execute. Note that every group members need to submit their programs. Make sure to create ga2 to submit your assignments.