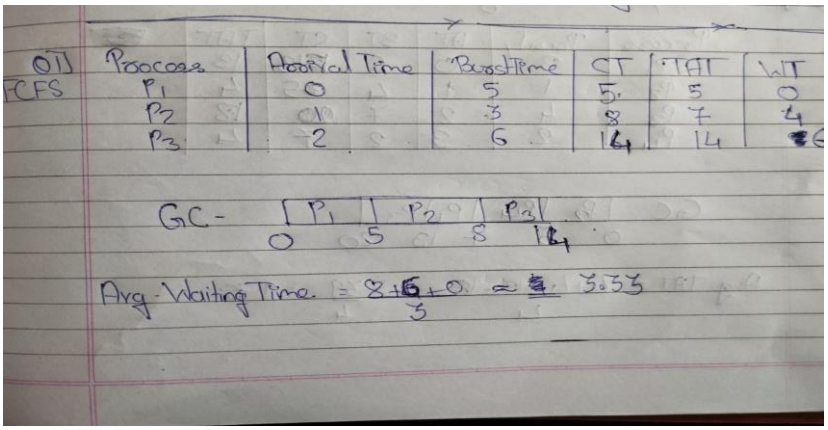
PART E

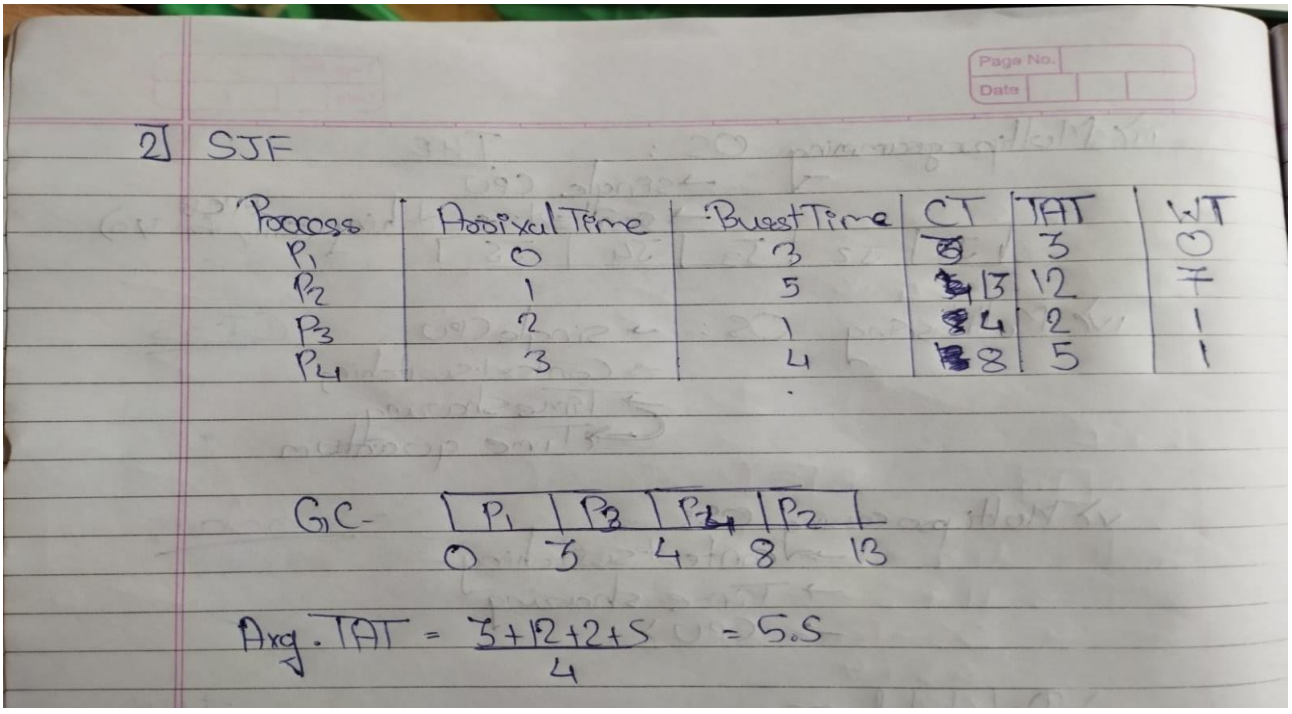


1] FCFS

Process	Arrival Time	Burst Time	CT	TAT	WT
P_1	0	5	5	5	0
P_2	1	3	8	7	4
P_3	2	6	14	14	8

GC- | P_1 (0–5) | P_2 (5–8) | P_3 (8–14) |

Avg. Waiting Time $= \frac{8+6+0}{3} \simeq 5.33$



2] SJF

Process	Arrival Time	Burst Time	CT	TAT	WT
P_1	0	3	3	3	0
P_2	1	5	13	12	7
P_3	2	1	4	2	1
P_4	3	4	8	5	1

GC- | P_1 (0–3) | P_3 (3–4) | P_4 (4–8) | P_2 (8–13) |

Avg. TAT $= \frac{3+12+2+5}{4} = 5.5$

3] Priority Scheduling

Process	Priority	AT	BT	CT	TAT
P_1	3	0	6	13	13
P_2	1	1	4	5	4
P_3	4	2	7	20	18
P_4	2	3	2	7	4

GC - | P_2 | P_4 | P_1 | P_3 |
0 5 7 13 20

Avg. TAT = $\frac{4+4+13+18}{4} = \frac{39}{4} = 9.75$

4] Round Robin

Process	AT	BT	CT	TAT	WT
P_1	0	4	10	10	6
P_2	1	5	14	13	8
P_3	2	2	6	4	2
P_4	3	3	13	10	7

GC - | P_1 | P_2 | P_3 | P_4 | P_1 | P_2 | P_4 | P_2 |
0 2 4 6 8 10 12 13 14

Avg T.A.T = $\frac{10+13+4+10}{4} = 9.25$

5] Consider a program that uses the fork() system call to create a child process. Initially, the parent process has a variable x with a value of 5. After forking, both the parent & child process increment the value of x by 1. What will be the final values of x in the parent and child processes after the fork() call?

⇒

Before fork(): parent's x = 5

After fork(): parent's x = x+1

x = 6

∴ child's x = 6