Ex No: 6 (a) FIRST COME FIRST SERVE (FCFS)

Date: 25.02.25

Aim:

To implement First-Come First-Serve (FCFS) scheduling technique.

Algorithm:

1. Start the program.
2. Input the number of processes.
3. Read the burst time for each process.
4. Calculate the waiting time for each process:
   - Waiting time of process 0 is 0.
   - For others:
     WaitingTime[i] = WaitingTime[i-1] + BurstTime[i-1]
5. Calculate the turnaround time for each process:
   TurnAroundTime[i] = WaitingTime[i] + BurstTime[i]
6. Calculate the total and average waiting time and turnaround time.
7. Display process details, total and average times.
8. End.

Program Code (in C):

```
#include <stdio.h>


int main() {
    int n, i;
    int burst_time[20], waiting_time[20], turn_around_time[20];
    int total_wt = 0, total_tat = 0;

    printf("Enter the number of process:\n");
    scanf("%d", &n);
    printf("Enter the burst time of the processes:\n");
    for (i = 0; i < n; i++) {
        scanf("%d", &burst_time[i]);

    }

    waiting_time[0] = 0;
for (i = 1; i < n; i++) {
        waiting_time[i] = waiting_time[i - 1] + burst_time[i - 1];

    }
for (i = 0; i < n; i++) {
        turn_around_time[i] = waiting_time[i] + burst_time[i];
        total_wt += waiting_time[i];
        total_tat += turn_around_time[i];

    }

    printf("Process\tBurst Time\tWaiting Time\tTurn Around Time\n");
    for (i = 0; i < n; i++) {
        printf("%d\t%d\t\t%d\t\t%d\n", i, burst_time[i], waiting_time[i], turn_around_time[i]);
    }

    printf("Average Waiting Time is: %.1f\n", (float)total_wt / n);
    printf("Average Turn Around Time is: %.1f\n", (float)total_tat / n);

    return 0;
}
```

Sample Output:

```
Enter the number of process:
3
Enter the burst time of the processes:
24 3 3
Process Burst Time Waiting Time Turn Around Time

0      24       0        24
1      3        24       27
2      3        27       30
Average Waiting Time is: 17.0
Average Turn Around Time is: 27.0
```

Result:

The FCFS Scheduling algorithm was successfully implemented. The program calculated the waiting time and turnaround time for each process and displayed the average times.