OS LAB MANUAL

(CS23431)

Roll No:230701234

EX.NO:6b

SHORTEST JOB FIRST

Aim: To implement the Shortest Job First (SJF) scheduling technique

Program:

```c
#include <stdio.h>

int main() {
    int n, i;
    int burst_time[10], waiting_time[10], turnaround_time[10];
    int total_waiting_time = 0, total_turnaround_time = 0;

    printf("Enter the number of processes: ");
    scanf("%d", &n);

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

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

    for (i = 0; i < n; i++) {
```

```c
        turnaround_time[i] = burst_time[i] + waiting_time[i];
    }


    printf("\nProcess\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], turnaround_time[i]);
    }


    for (i = 0; i < n; i++) {
        total_waiting_time += waiting_time[i];
        total_turnaround_time += turnaround_time[i];
    }


    printf("\nAverage waiting time is: %.2f", (float)total_waiting_time / n);
    printf("\nAverage Turnaround Time is: %.2f\n", (float)total_turnaround_time / n);


    return 0;
}
```

INPUT :

OUTPUT:

```
Enter the number of processes: 4
Enter the burst time of the processes:
Process 1: 2
Process 2: 3
Process 3: 1
Process 4: 4

Process Burst Time       Waiting Time     Turn Around Time
3       1                0                1
1       2                1                3
2       3                3                6
4       4                6                10

Average waiting time is: 2.50
Average Turn Around Time is: 5.00
```