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Exp:6b

### SHORTEST JOB FIRST

**Aim:**

**To implement the Shortest Job First (SJF) scheduling technique**

**CODE:**

```
#include<stdio.h>
int main() {
    int n;
    printf("Enter the number of processes: ");
    scanf("%d", &n);
    int process[n], burst_time[n], arrival_time[n], waiting_time[n], turn_around_time[n];
    float total_waiting_time=0, total_turn_around_time=0;
    printf("\nEnter the burst time: \n");
    for(int i=0; i<n; i++) {
        process[i]=i;
        scanf("%d", &burst_time[i]);
    }
    //sorting burst time
    for(int i=0; i<n; i++)
        for(int j=0; j<n-1; j++)
            if(burst_time[j]>burst_time[j+1])//swapping
            {
                burst_time[j]=burst_time[j]-burst_time[j+1];
                process[j]=process[j]-process[j+1];

                burst_time[j+1]=burst_time[j+1]+burst_time[j];
                process[j+1]=process[j+1]+process[j];

                burst_time[j]=burst_time[j+1]-burst_time[j];
                process[j]=process[j+1]-process[j];
            }

    //finding waiting time
    waiting_time[0]=0;
    for(int i=1; i<n; i++)
        waiting_time[i]=waiting_time[i-1]+burst_time[i-1];

    //finding turnaround time
    for(int i=0; i<n; i++) {
        turn_around_time[i]=burst_time[i]+waiting_time[i];
        total_turn_around_time+=turn_around_time[i];
        total_waiting_time+=waiting_time[i];
    }

    printf("\nprocess    burst_time    waiting_time    turn_around_time\n");
    for(int i=0; i<n; i++) {
        printf("    %d        %d        %d        %d\n", process[i], burst_time[i], waiting_time[i], turn_around_time[i]);
    }
    //printf("%d %d", total_waiting_time/n, (total_turn_around_time/n));
    printf("\nAverage waiting time : %.2f\n", (total_waiting_time/n));
    printf("\nAverage turn around time : %.2f\n", (total_turn_around_time/n));
}
```

**OUTPUT:**

```
[cse36@localhost ~]$ cc 6a_sjf.c
[cse36@localhost ~]$ ./a.out
Enter the number of processes: 4

Enter the burst time:
8
4
9
5

process    burst_time    waiting_time    turn_around_time
1           4             0               4
3           5             4               9
0           8             9              17
2           9            17             26

Average waiting time : 7.50

Average turn around time : 14.00
```