

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:
 $\text{WaitingTime}[i] = \text{WaitingTime}[i-1] + \text{BurstTime}[i-1]$
 5. Calculate the turnaround time for each process:
 $\text{TurnAroundTime}[i] = \text{WaitingTime}[i] + \text{BurstTime}[i]$
 6. Calculate the total and average waiting time and turnaround time.
 7. Display process details, total and average times.
 8. End.
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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%d\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
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1	3	24	27
---	---	----	----

2	3	27	30
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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.