

## SOURCE CODE:

```
#include<stdio.h>
#include<conio.h>
main()
{
int bt[20], wt[20], tat[20], i, n;
float wtavg, tatavg;
clrscr();
printf("\nEnter the number of processes -- ");
scanf("%d", &n);
for(i=0;i<n;i++)
{
printf("\nEnter Burst Time for Process %d -- ", i);
scanf("%d", &bt[i]);
}
wt[0] = wtavg = 0;
tat[0] = tatavg = bt[0];
for(i=1;i<n;i++)
{
wt[i] = wt[i-1] +bt[i-1];
tat[i] = tat[i-1] +bt[i];
wtavg = wtavg + wt[i];
tatavg = tatavg + tat[i];
}
printf("\t PROCESS \tBURST TIME \t WAITING TIME\t TURNAROUND TIME\n");
for(i=0;i<n;i++)
    printf("\n\t P%d \t\t %d \t\t %d \t\t %d", i, bt[i], wt[i], tat[i]);
printf("\nAverage Waiting Time -- %f", wtavg/n);
printf("\nAverage Turnaround Time -- %f", tatavg/n);
getch();
}
```

***INPUT***

Enter the number of processes --	3
Enter Burst Time for Process 0 --	24
Enter Burst Time for Process 1 --	3
Enter Burst Time for Process 2 --	3

***OUTPUT***

PROCESS	BURST TIME	WAITING TIME	TURNAROUND TIME
P0	24	0	24
P1	3	24	27
P2	3	27	30
Average Waiting Time--		17.000000	
Average Turnaround Time --		27.000000	

## **EXPERIMENT NO.1**

### **CPU SCHEDULING ALGORITHMS**

#### **A). FIRST COME FIRST SERVE:**

**AIM:** To write a c program to simulate the CPU scheduling algorithm First Come First Serve (FCFS)

#### **DESCRIPTION:**

To calculate the average waiting time using the FCFS algorithm first the waiting time of the first process is kept zero and the waiting time of the second process is the burst time of the first process and the waiting time of the third process is the sum of the burst times of the first and the second process and so on. After calculating all the waiting times the average waiting time is calculated as the average of all the waiting times. FCFS mainly says first come first serve the algorithm which came first will be served first.

#### **ALGORITHM:**

Step 1: Start the process

Step 2: Accept the number of processes in the ready Queue

Step 3: For each process in the ready Q, assign the process name and the burst time Step

4: Set the waiting of the first process as \_0'and its burst time as its turnaround time Step

5: for each process in the Ready Q calculate

a).  $\text{Waiting time (n)} = \text{waiting time (n-1)} + \text{Burst time (n-1)}$  b).

$\text{Turnaround time (n)} = \text{waiting time(n)} + \text{Burst time(n)}$

Step 6: Calculate

a)  $\text{Average waiting time} = \text{Total waiting Time} / \text{Number of process}$

b)  $\text{Average Turnaround time} = \text{Total Turnaround Time} / \text{Number of process}$

Step 7: Stop the process