A process is a program in execution

process state:

Admitted

exit

I/O or event Completion

I/O or event wait

Scheduler

Dispatch

Waiting

Interrupt

Terminated

Running

Ready

New

**Burst Time:**

**Waiting Time:**

**Turn-around Time / Completion Time:**

|  |  |
| --- | --- |
| **Process** | **Burst Time** |
| P1 | 24 |
| P2 | 3 |
| P3 | 3 |

|  |  |  |
| --- | --- | --- |
| P1 | P2 | P3 |

24

0

30

27

|  |  |  |  |
| --- | --- | --- | --- |
| **Process** | **Burst Time** | **Waiting Time** | **Turn-around Time** |
| P1 | 5 | 0 | 5 |
| P2 | 10 | 5 | 15 |
| P3 | 8 | 15 | 23 |
| P4 | 1 | 23 | 24 |
| P5 | 7 | 24 | 31 |
|  |  |  |  |
| **Average W.T:** | **13.4** | | |
| **Average T.A.T:** | **19.6** | | |

**Source Code:**

**#include<stdio.h>**

**void fwt(int process[], int n, int bt[], int wt[])**

**{**

**wt[0] = 0;**

**int i;**

**for (i = 1; i < n; i++)**

**wt[i] = bt[i - 1] + wt[i - 1];**

**}**

**void ftat(int process[], int n, int bt[], int wt[], int tat[])**

**{**

**int i;**

**for (i = 0; i < n; i++)**

**tat[i] = bt[i] + wt[i];**

**}**

**void fat(int processes[], int n, int bt[])**

**{**

**int wt[n], tat[n], total\_wt = 0, total\_tat = 0;**

**fwt(processes, n, bt, wt);**

**ftat(processes, n, bt, wt, tat);**

**printf("Process\t Burst Time\tWaiting Time\tTurnaround Time\n");**

**int i;**

**for (i = 0; i < n; i++)**

**{**

**total\_wt += wt[i];**

**total\_tat += tat[i];**

**printf(" P%d\t\t%d\t\t%d\t\t%d\n", i + 1, bt[i], wt[i], tat[i]);**

**}**

**printf("\nAverage Waiting Time (W.T): %.2f\n", (float)total\_wt / n);**

**printf("Average Turnaround Time (T.A.T): %.2f\n", (float)total\_tat / n);**

**}**

**int main()**

**{**

**int n;**

**printf("Enter the number of processes: ");**

**scanf("%d", &n);**

**int bt[n];**

**printf("Enter burst time for each process:\n");**

**int i;**

**for (i = 0; i < n; i++)**

**{**

**printf("P%d: ", i + 1);**

**scanf("%d", &bt[i]);**

**}**

**fat(NULL, n, bt);**

**return 0;**

**}**