

Code:

// Write a program to implement FCFS (with arrival time=0 for all) Calculate waiting time, turnaround time for each process. Calculate avg. waiting time, avg turnaround time

```
#include <bits/stdc++.h>
```

```
using namespace std;
```

```
struct Process {
```

```
    int pid;
```

```
    int bt;
```

```
    int wt;
```

```
    int tat;
```

```
};
```

```
void findWaitingTime(Process processes[], int n) {
```

```
    processes[0].wt = 0;
```

```
    for (int i = 1; i <= n; i++) {
```

```
        processes[i].wt = 0;
```

```
        for (int j = 0; j < i; j++) {
```

```
            processes[i].wt += processes[j].bt;
```

```
        }
```

```
    }
```

```
}
```

```
void findTurnaroundTime(Process processes[], int n){
```

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

```
        processes[i].tat = processes[i].bt + processes[i].wt;
```

```
}
```

```
void findAvgTime(Process processes[], int n) {
```

```
    int awt = 0, atat = 0;
```

```
    findWaitingTime(processes, n);
```

```
    findTurnaroundTime(processes, n);
```

```
    cout<<endl;
```

```
    cout << "Process\t\tBurst-Time\tWaiting-Time\tTurnAround-Time\n";
```

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

```
        cout << i+1 << "\t\t" << processes[i].bt << "\t\t" << processes[i].wt << "\t\t" <<
```

```
processes[i].tat << endl;
```

```
        awt += processes[i].wt;
```

```
        atat += processes[i].tat;
```

```
    }
```

```
    cout << "\nAverage Waiting Time: " << (float)awt / (float)n << endl;
```

```
    cout << "\nAverage Turn-Around Time: " << (float)atat / (float)n << endl;
```

```

}

int main() {

    int n;
    cout << "Enter the number of processes: ";
    cin >> n;

    Process processes[n];

    cout << "\nEnter the process burst time: " << endl;
    for (int i = 0; i < n; i++) {
        cout << "P[" << i+1 << "] : ";
        cin >> processes[i].bt;
    }

    findAvgTime(processes, n);
}

```

Sample Output:

Enter the number of processes: 5

Enter the process burst time:

P[1] : 10

P[2] : 1

P[3] : 2

P[4] : 1

P[5] : 5

Process	Burst-Time	Waiting-Time	TurnAround-Time
1	10	0	10
2	1	10	11
3	2	11	13
4	1	13	14
5	5	14	19

Average Waiting Time: 9.6

Average Turn-Around Time: 13.4