

EXP-7 :-

```
#include <stdio.h>
```

```
typedef struct {
```

```
    int id, burst_time, waiting_time, turnaround_time;
```

```
} Process;
```

```
void calculateTimes(Process proc[], int n) {
```

```
    int total_wait = 0, total_turnaround = 0;
```

```
    proc[0].waiting_time = 0;
```

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

```
        if (i > 0)
```

```
            proc[i].waiting_time = proc[i - 1].waiting_time + proc[i - 1].burst_time;
```

```
            proc[i].turnaround_time = proc[i].waiting_time + proc[i].burst_time;
```

```
            total_wait += proc[i].waiting_time;
```

```
            total_turnaround += proc[i].turnaround_time;
```

```
    }
```

```
    printf("Average waiting time: %.2f\n", (float)total_wait / n);
```

```
    printf("Average turnaround time: %.2f\n", (float)total_turnaround / n);
```

```
}
```

```
void sortProcesses(Process proc[], int n) {
```

```
    for (int i = 0; i < n - 1; i++)
```

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

```
            if (proc[i].burst_time > proc[j].burst_time) {
```

```
                Process temp = proc[i];
```

```
                proc[i] = proc[j];
```

```
                proc[j] = temp;
```

```
            }
```

```
}
```

```
int main() {
```

```
    Process proc[] = { {1, 6}, {2, 8}, {3, 7}, {4, 3} };
```

```
    int n = sizeof(proc) / sizeof(proc[0]);
```

```
    sortProcesses(proc, n);
```

```
calculateTimes(proc, n);  
return 0;  
}
```

OUTPUT :-

```
Average waiting time: 7.00  
Average turnaround time: 13.00
```

```
=== Code Execution Successful ===
```