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3. Design a CPU scheduling program with C using First Come First Served technique with the following considerations.

a. All processes are activated at time 0.

b. Assume that no process waits on I/O devices

Aim:

To design a CPU scheduling program using the First Come First Served (FCFS) technique where all processes are activated at time 0, and no process waits on I/O devices.

Algorithm:

1. Start the program.
2. Input the number of processes and their burst times.
3. Calculate the waiting time for each process:
    - Waiting time for the first process is 0.
    - For subsequent processes, Waiting Time[i] = Waiting Time[i-1] + Burst Time[i-1].
4. Calculate the turnaround time for each process:
    - Turnaround Time[i] = Waiting Time[i] + Burst Time[i].
5. Display the process details, including their burst time, waiting time, and turnaround time.
6. Compute the average waiting time and turnaround time.
7. End the program.

Procedure:

1. Include necessary headers: <stdio.h>.
2. Define arrays for burst times, waiting times, and turnaround times.
3. Compute waiting times and turnaround times iteratively.
4. Calculate and display average waiting and turnaround times.

CODE:

```
#include <stdio.h>

int main() {
   int n, i;
   float avg_wait = 0, avg_turnaround = 0;

   printf("Enter the number of processes: ");
   scanf("%d", &n);

   int burst_time[n], waiting_time[n], turnaround_time[n];

   printf("Enter the burst times for each process:\n");
   for (i = 0; i < n; i++) {
      printf("Process %d: ", i + 1);
      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++) {
      turnaround_time[i] = waiting_time[i] + burst_time[i];
      avg_wait += waiting_time[i];
      avg_turnaround += turnaround_time[i];
```

```
    }

    avg_wait /= n;
    avg_turnaround /= n;

    printf("\nProcess\tBurst Time\tWaiting Time\tTurnaround Time\n");
    for (i = 0; i < n; i++) {
        printf("%d\t%d\t\t%d\t\t%d\n", i + 1, burst_time[i], waiting_time[i],
turnaround_time[i]);
    }

    printf("\nAverage Waiting Time: %.2f\n", avg_wait);
    printf("Average Turnaround Time: %.2f\n", avg_turnaround);

    return 0;
}
```

OUTPUT: