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1. Design a CPU scheduling program with C using First Come First Served technique with the following considerations.
   1. All processes are activated at time 0.
   2. 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:

