main.c

Run

```c
#include<stdio.h>
struct priority_scheduling {
  char process_name;
  int burst_time;
  int waiting_time;
  int turn_around_time;
  int priority;
};
int main() {
  int number_of_process;
  int total = 0;
  struct priority_scheduling temp_process;
  int ASCII_number = 65;
  int position;
  float average_waiting_time;
  float average_turnaround_time;
  scanf("%d", & number_of_process);
  struct priority_scheduling process[number_of_process];
  printf("\nPlease Enter the  Burst Time and Priority of each process:\n");
  for (int i = 0; i < number_of_process; i++) {
    process[i].process_name = (char) ASCII_number;
    printf("\nEnter the details of the process %c \n", process[i]
        .process_name);
    printf("Enter the burst time: ");
    scanf("%d", & process[i].burst_time);
    printf("Enter the priority: ");
    scanf("%d", & process[i].priority);
    ASCII_number++;
```

Output

Clear

```
/tmp/qU5mvMUyaC.o
3
Please Enter the  Burst Time and Priority of each process:

Enter the details of the process A
Enter the burst time: 30
Enter the priority: 2
Enter the details of the process B
Enter the burst time: 5
Enter the priority: 1
Enter the details of the process C
Enter the burst time: 12
Enter the priority: 3
Process_name     Burst Time      Waiting Time     Turnaround Time
-------------------------------------------------------------
      C           12         0       12
-------------------------------------------------------------
      A           30         12          42
-------------------------------------------------------------
      B           5          42          47
-------------------------------------------------------------


Average Waiting Time : 18.000000
 Average Turnaround Time: 33.666668
```

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Run

```
    scanf("%d", & process[i].priority);
    ASCII_number++;
  }
  for (int i = 0; i < number_of_process; i++) {
    position = i;
    for (int j = i + 1; j < number_of_process; j++) {
      if (process[j].priority > process[position].priority)
        position = j;
    }
    temp_process = process[i];
    process[i] = process[position];
    process[position] = temp_process;
  }
  process[0].waiting_time = 0;
  for (int i = 1; i < number_of_process; i++) {
    process[i].waiting_time = 0;
    for (int j = 0; j < i; j++) {
      process[i].waiting_time += process[j].burst_time;
    }
    total += process[i].waiting_time;
  }
  average_waiting_time = (float) total / (float) number_of_process;
  total = 0;
  printf("\n\nProcess_name \t Burst Time \t Waiting Time \t  Turnaround
      Time\n");
  printf("-----------------------------------------------------------\n");
  for (int i = 0; i < number_of_process; i++) {
    process[i].turn_around_time = process[i].burst_time + process[i]
```

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```c
  for (int i = 1; i < number_of_process; i++) {
    process[i].waiting_time = 0;
    for (int j = 0; j < i; j++) {
      process[i].waiting_time += process[j].burst_time;
    }
    total += process[i].waiting_time;
  }
  average_waiting_time = (float) total / (float) number_of_process;
  total = 0;
  printf("\n\nProcess_name \t Burst Time \t Waiting Time \t  Turnaround
      Time\n");
  printf("-------------------------------------------------------------\n");
  for (int i = 0; i < number_of_process; i++) {
    process[i].turn_around_time = process[i].burst_time + process[i]
        .waiting_time;
    total += process[i].turn_around_time;
    printf("\t  %c \t\t  %d \t\t %d \t\t %d", process[i].process_name,
        process[i].burst_time, process[i].waiting_time, process[i]
        .turn_around_time);
    printf("\n-------------------------------------------------------------\n"
        );
  }
  average_turnaround_time = (float) total / (float) number_of_process;
  printf("\n\n Average Waiting Time : %f", average_waiting_time);
  printf("\n Average Turnaround Time: %f\n", average_turnaround_time);
  return 0;
}

```

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