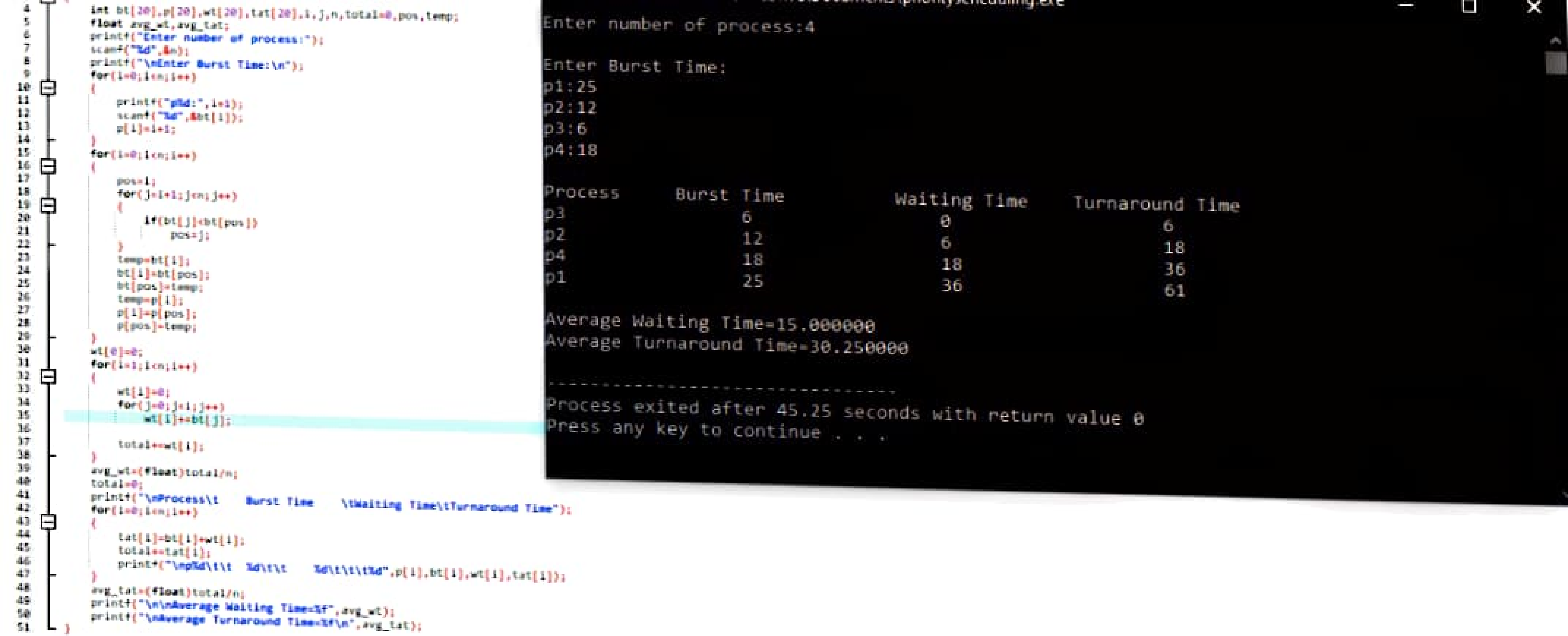
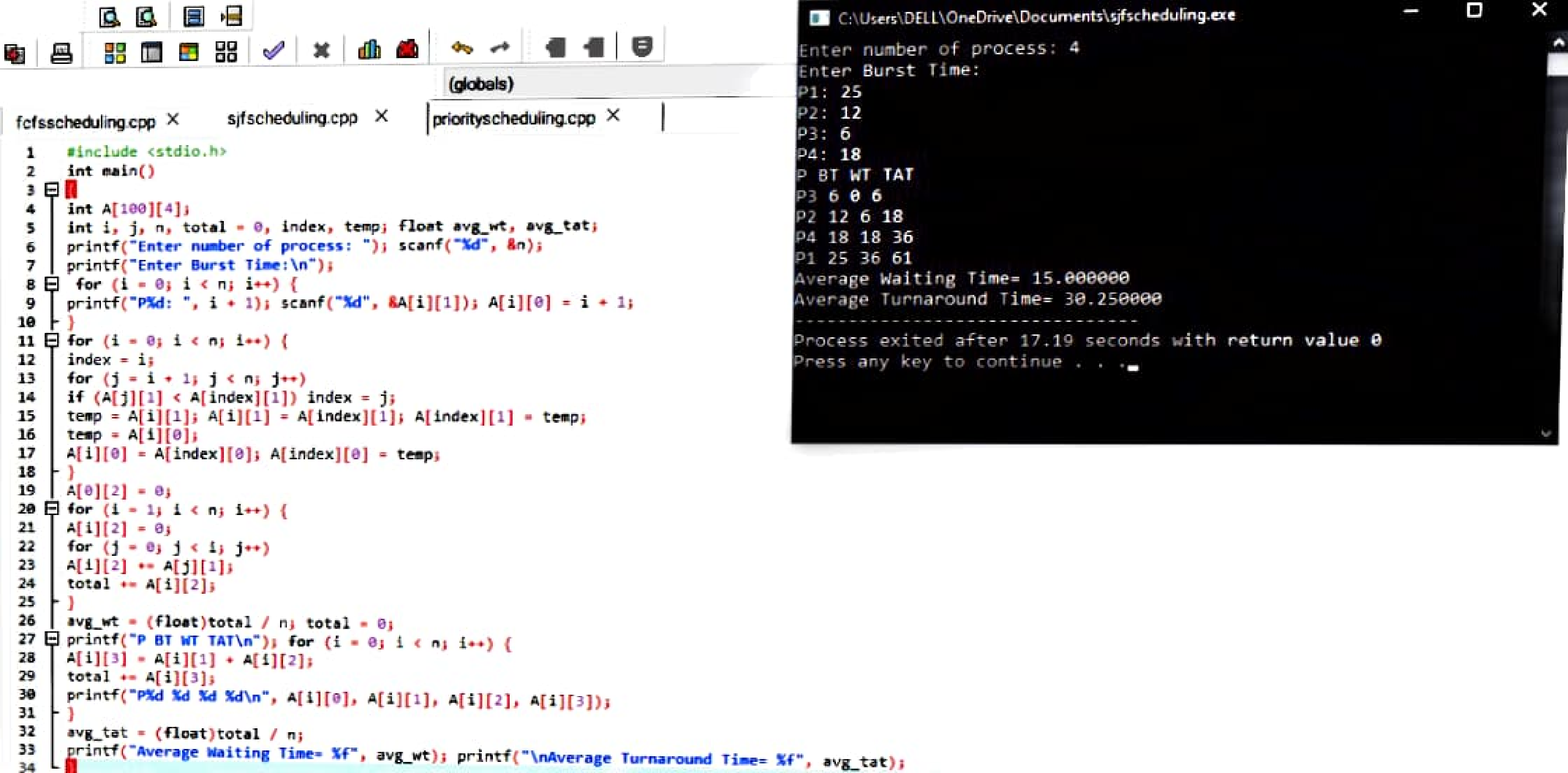


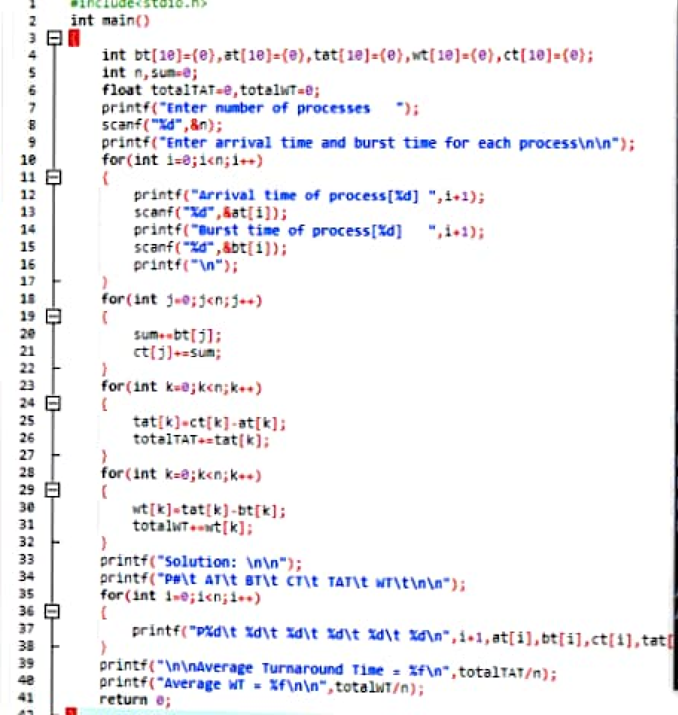
```c
    int bt[20],p[20],wt[20],tat[20],i,j,n,total=0,pos,temp;
    float avg_wt,avg_tat;
    printf("Enter number of process:");
    scanf("%d",&n);
    printf("\nEnter Burst Time:\n");
    for(i=0;i<n;i++)
    {
        printf("p%d:",i+1);
        scanf("%d",&bt[i]);
        p[i]=i+1;
    }
    for(i=0;i<n;i++)
    {
        pos=i;
        for(j=i+1;j<n;j++)
        {
            if(bt[j]<bt[pos])
                pos=j;
        }
        temp=bt[i];
        bt[i]=bt[pos];
        bt[pos]=temp;
        temp=p[i];
        p[i]=p[pos];
        p[pos]=temp;
    }
    wt[0]=0;
    for(i=1;i<n;i++)
    {
        wt[i]=0;
        for(j=0;j<i;j++)
            wt[i]+=bt[j];

        total+=wt[i];
    }
    avg_wt=(float)total/n;
    total=0;
    printf("\nProcess\t    Burst Time    \tWaiting Time\tTurnaround Time");
    for(i=0;i<n;i++)
    {
        tat[i]=bt[i]+wt[i];
        total+=tat[i];
        printf("\np%d\t\t  %d\t\t    %d\t\t\t%d",p[i],bt[i],wt[i],tat[i]);
    }
    avg_tat=(float)total/n;
    printf("\n\nAverage Waiting Time=%f",avg_wt);
    printf("\nAverage Turnaround Time=%f\n",avg_tat);
}
```

```
Enter number of process:4

Enter Burst Time:
p1:25
p2:12
p3:6
p4:18

Process     Burst Time        Waiting Time    Turnaround Time
p3              6                 0                6
p2              12                6                18
p4              18                18               36
p1              25                36               61

Average Waiting Time=15.000000
Average Turnaround Time=30.250000

--------------------------------
Process exited after 45.25 seconds with return value 0
Press any key to continue . . .
```

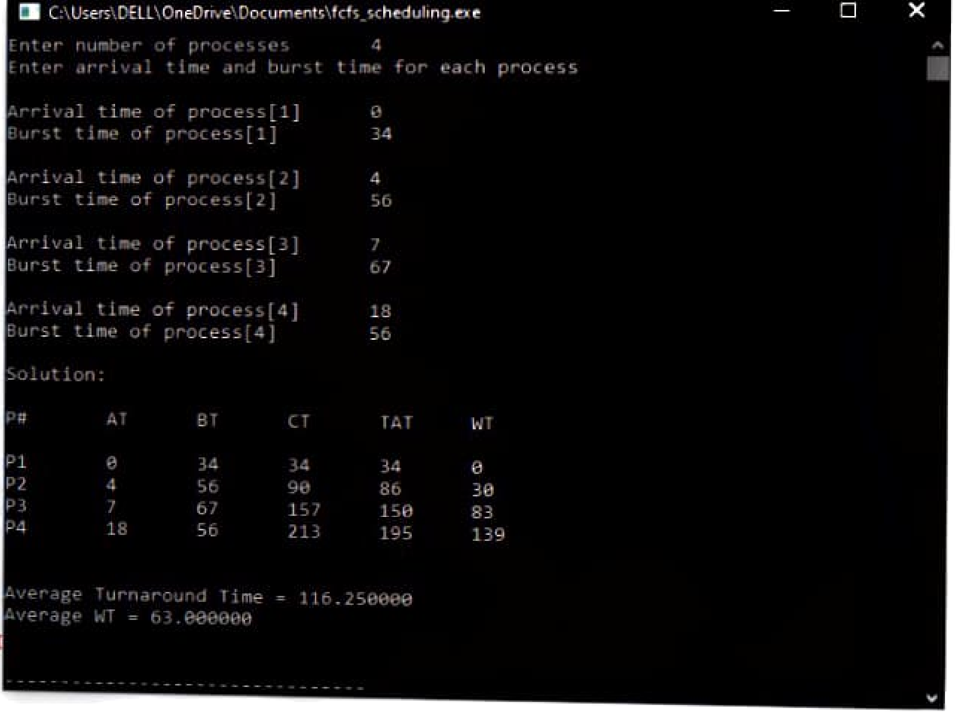


```c
#include <stdio.h>
int main()
{
int A[100][4];
int i, j, n, total = 0, index, temp; float avg_wt, avg_tat;
printf("Enter number of process: "); scanf("%d", &n);
printf("Enter Burst Time:\n");
 for (i = 0; i < n; i++) {
printf("P%d: ", i + 1); scanf("%d", &A[i][1]); A[i][0] = i + 1;
}
for (i = 0; i < n; i++) {
index = i;
for (j = i + 1; j < n; j++)
if (A[j][1] < A[index][1]) index = j;
temp = A[i][1]; A[i][1] = A[index][1]; A[index][1] = temp;
temp = A[i][0];
A[i][0] = A[index][0]; A[index][0] = temp;
}
A[0][2] = 0;
for (i = 1; i < n; i++) {
A[i][2] = 0;
for (j = 0; j < i; j++)
A[i][2] += A[j][1];
total += A[i][2];
}
avg_wt = (float)total / n; total = 0;
printf("P BT WT TAT\n"); for (i = 0; i < n; i++) {
A[i][3] = A[i][1] + A[i][2];
total += A[i][3];
printf("P%d %d %d %d\n", A[i][0], A[i][1], A[i][2], A[i][3]);
}
avg_tat = (float)total / n;
printf("Average Waiting Time= %f", avg_wt); printf("\nAverage Turnaround Time= %f", avg_tat);
}
```

```
Enter number of process: 4
Enter Burst Time:
P1: 25
P2: 12
P3: 6
P4: 18
P BT WT TAT
P3 6 0 6
P2 12 6 18
P4 18 18 36
P1 25 36 61
Average Waiting Time= 15.000000
Average Turnaround Time= 30.250000
--------------------------------
Process exited after 17.19 seconds with return value 0
Press any key to continue . . .
```

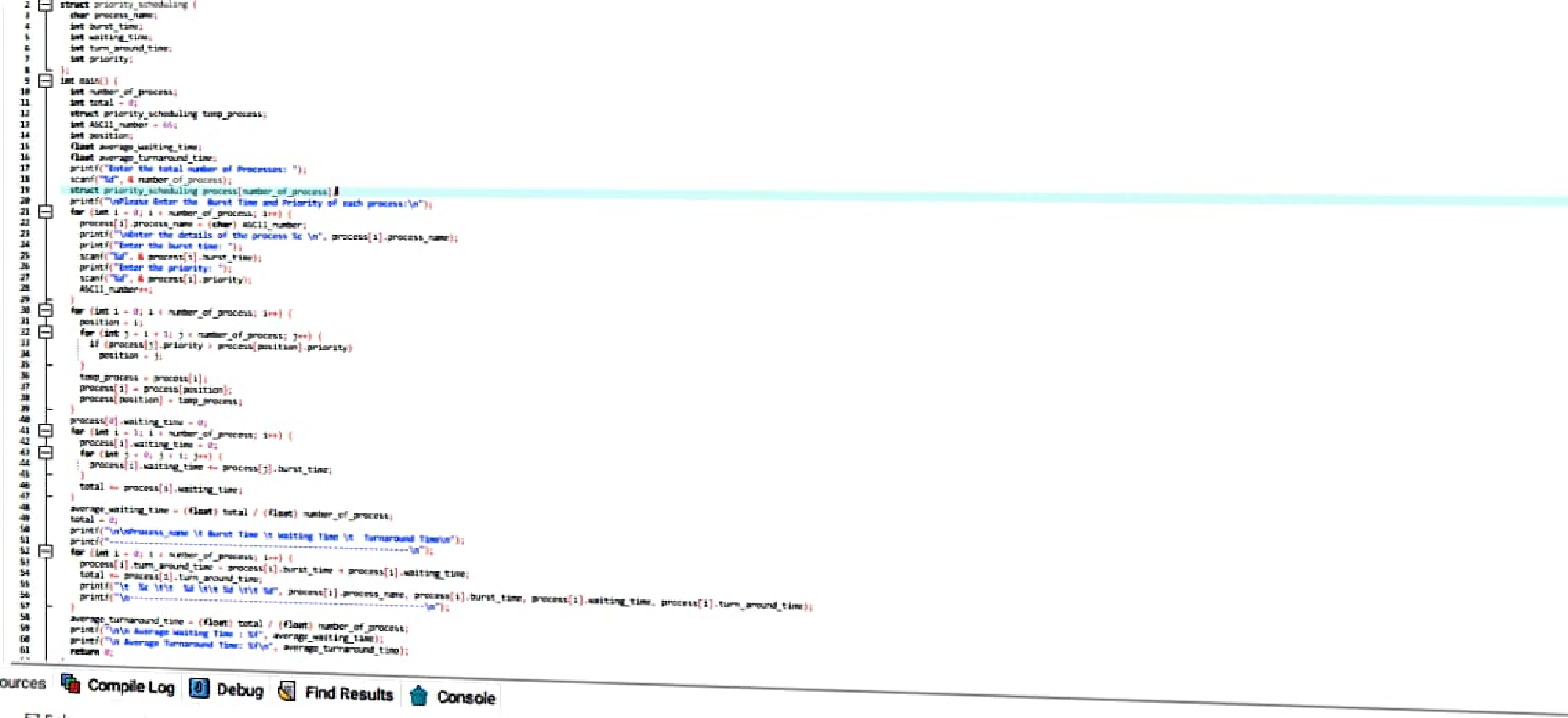


```c
#include<stdio.h>
int main()
{
    int bt[10]={0},at[10]={0},tat[10]={0},wt[10]={0},ct[10]={0};
    int n,sum=0;
    float totalTAT=0,totalWT=0;
    printf("Enter number of processes   ");
    scanf("%d",&n);
    printf("Enter arrival time and burst time for each process\n\n");
    for(int i=0;i<n;i++)
    {
        printf("Arrival time of process[%d] ",i+1);
        scanf("%d",&at[i]);
        printf("Burst time of process[%d]   ",i+1);
        scanf("%d",&bt[i]);
        printf("\n");
    }
    for(int j=0;j<n;j++)
    {
        sum+=bt[j];
        ct[j]+=sum;
    }
    for(int k=0;k<n;k++)
    {
        tat[k]=ct[k]-at[k];
        totalTAT+=tat[k];
    }
    for(int k=0;k<n;k++)
    {
        wt[k]=tat[k]-bt[k];
        totalWT+=wt[k];
    }
    printf("Solution: \n\n");
    printf("P#\t AT\t BT\t CT\t TAT\t WT\t\n\n");
    for(int i=0;i<n;i++)
    {
        printf("P%d\t %d\t %d\t %d\t %d\t %d\n",i+1,at[i],bt[i],ct[i],tat[
    }
    printf("\n\nAverage Turnaround Time = %f\n",totalTAT/n);
    printf("Average WT = %f\n\n",totalWT/n);
    return 0;
```



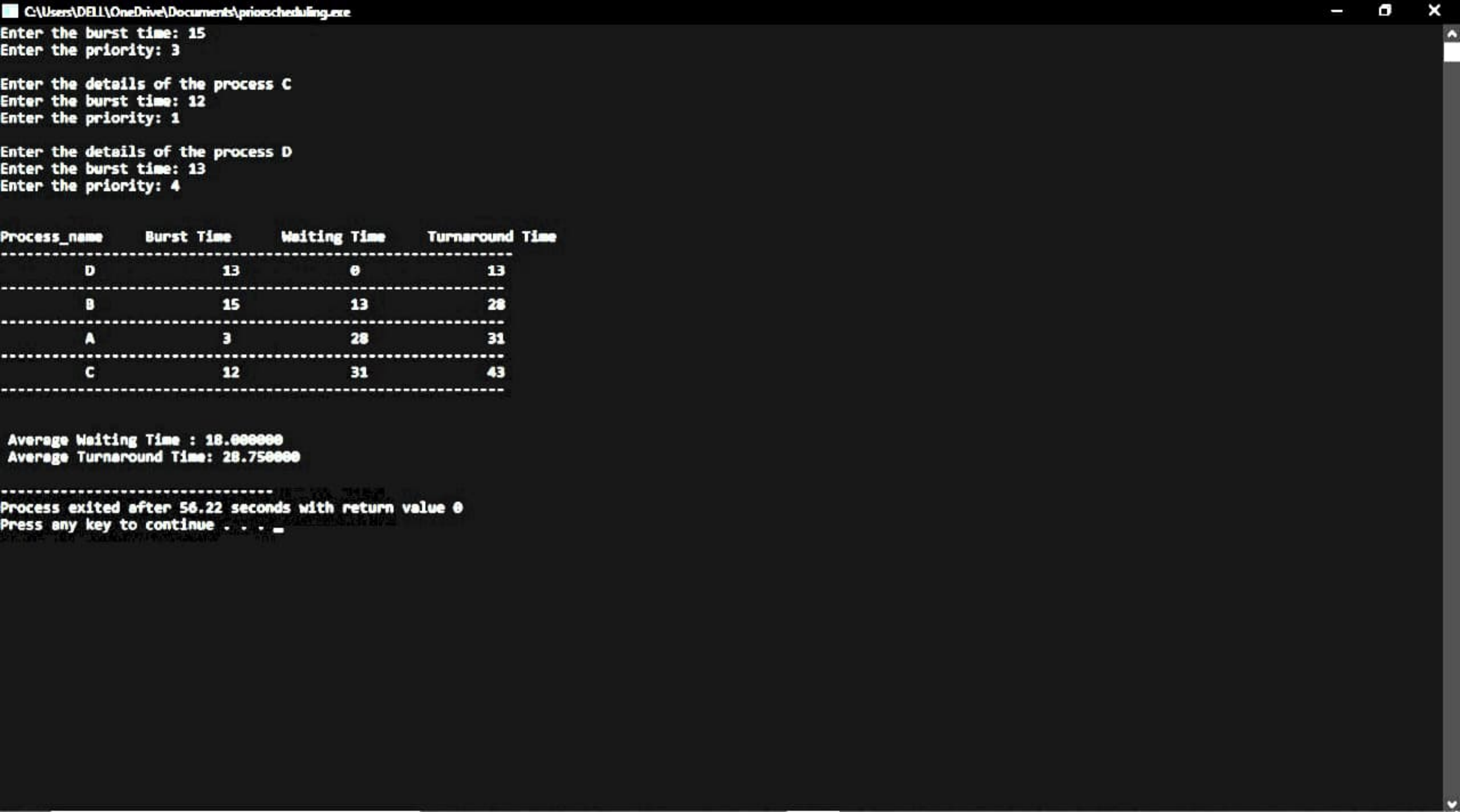
C:\Users\DELL\OneDrive\Documents\fcfs_scheduling.exe

```
Enter number of processes      4
Enter arrival time and burst time for each process

Arrival time of process[1]     0
Burst time of process[1]       34

Arrival time of process[2]     4
Burst time of process[2]       56

Arrival time of process[3]     7
Burst time of process[3]       67

Arrival time of process[4]     18
Burst time of process[4]       56

Solution:

P#       AT      BT      CT      TAT     WT

P1       0       34      34      34      0
P2       4       56      90      86      30
P3       7       67      157     150     83
P4       18      56      213     195     139


Average Turnaround Time = 116.250000
Average WT = 63.000000


--------------------------------
```

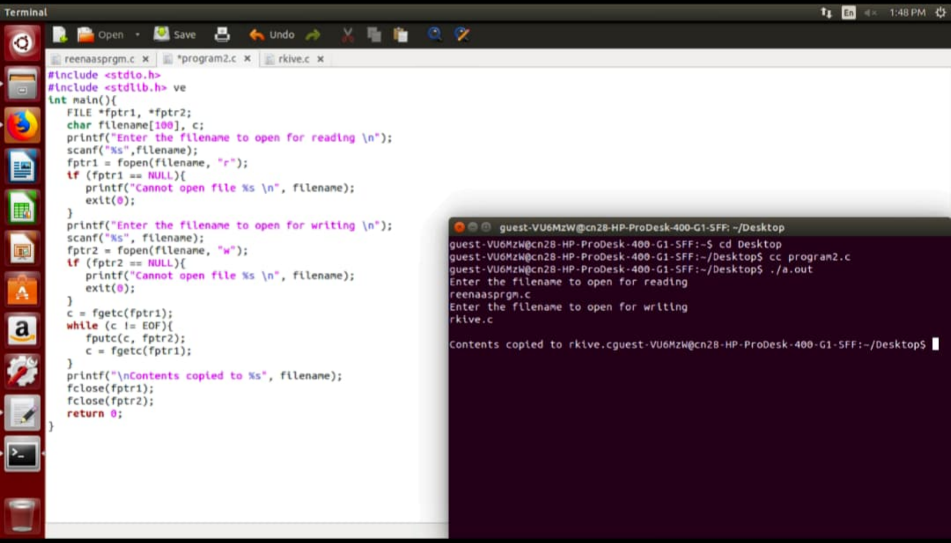


```c
struct priority_scheduling {
  char process_name;
  int burst_time;
  int waiting_time;
  int turn_around_time;
  int priority;
};
int main() {
  int number_of_process;
  int total = 0;
  struct priority_scheduling temp_process;
  int ASCII_number = 65;
  int position;
  float average_waiting_time;
  float average_turnaround_time;
  printf("Enter the total number of Processes: ");
  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++;
  }
  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].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;
}
```

]


C:\Users\DELL\OneDrive\Documents\priorscheduling.exe

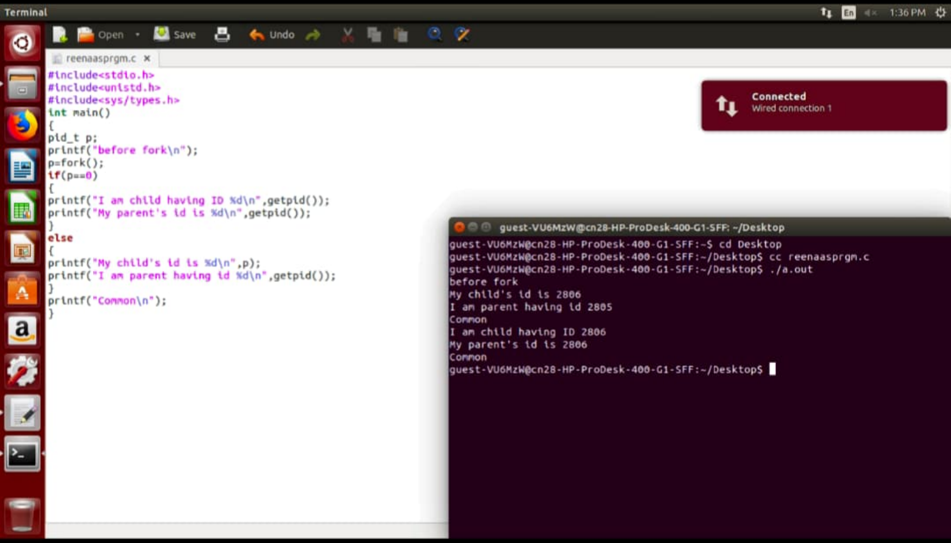
```
Enter the burst time: 15
Enter the priority: 3

Enter the details of the process C
Enter the burst time: 12
Enter the priority: 1

Enter the details of the process D
Enter the burst time: 13
Enter the priority: 4


Process_name     Burst Time      Waiting Time     Turnaround Time
------------------------------------------------------------
          D               13             0                13
------------------------------------------------------------
          B               15            13                28
------------------------------------------------------------
          A                3            28                31
------------------------------------------------------------
          C               12            31                43
------------------------------------------------------------


 Average Waiting Time : 18.000000
 Average Turnaround Time: 28.750000

--------------------------------
Process exited after 56.22 seconds with return value 0
Press any key to continue . . . _
```



```c
#include <stdio.h>
#include <stdlib.h> ve
int main(){
   FILE *fptr1, *fptr2;
   char filename[100], c;
   printf("Enter the filename to open for reading \n");
   scanf("%s",filename);
   fptr1 = fopen(filename, "r");
   if (fptr1 == NULL){
      printf("Cannot open file %s \n", filename);
      exit(0);
   }
   printf("Enter the filename to open for writing \n");
   scanf("%s", filename);
   fptr2 = fopen(filename, "w");
   if (fptr2 == NULL){
      printf("Cannot open file %s \n", filename);
      exit(0);
   }
   c = fgetc(fptr1);
   while (c != EOF){
      fputc(c, fptr2);
      c = fgetc(fptr1);
   }
   printf("\nContents copied to %s", filename);
   fclose(fptr1);
   fclose(fptr2);
   return 0;
}
```

guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF: ~/Desktop

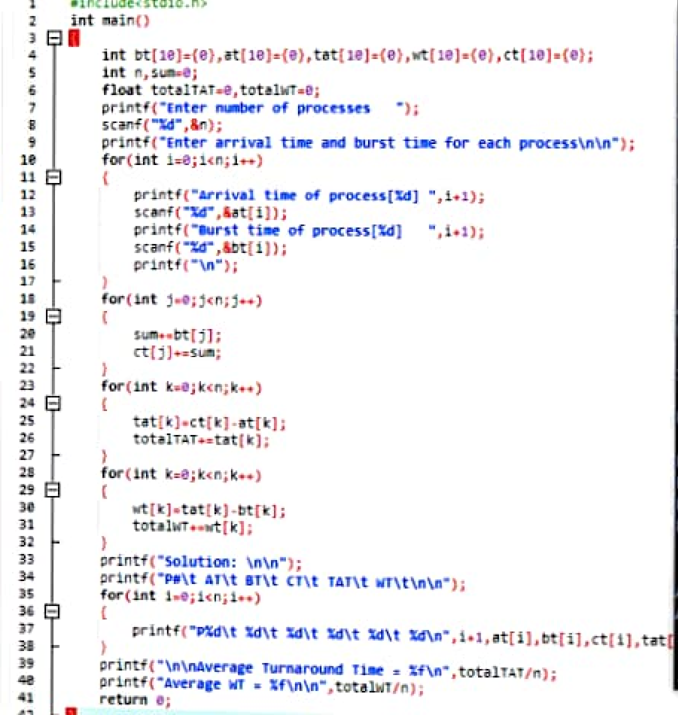
```
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~$ cd Desktop
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~/Desktop$ cc program2.c
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~/Desktop$ ./a.out
Enter the filename to open for reading
reenaasprgm.c
Enter the filename to open for writing
rkive.c

Contents copied to rkive.cguest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~/Desktop$ 
```



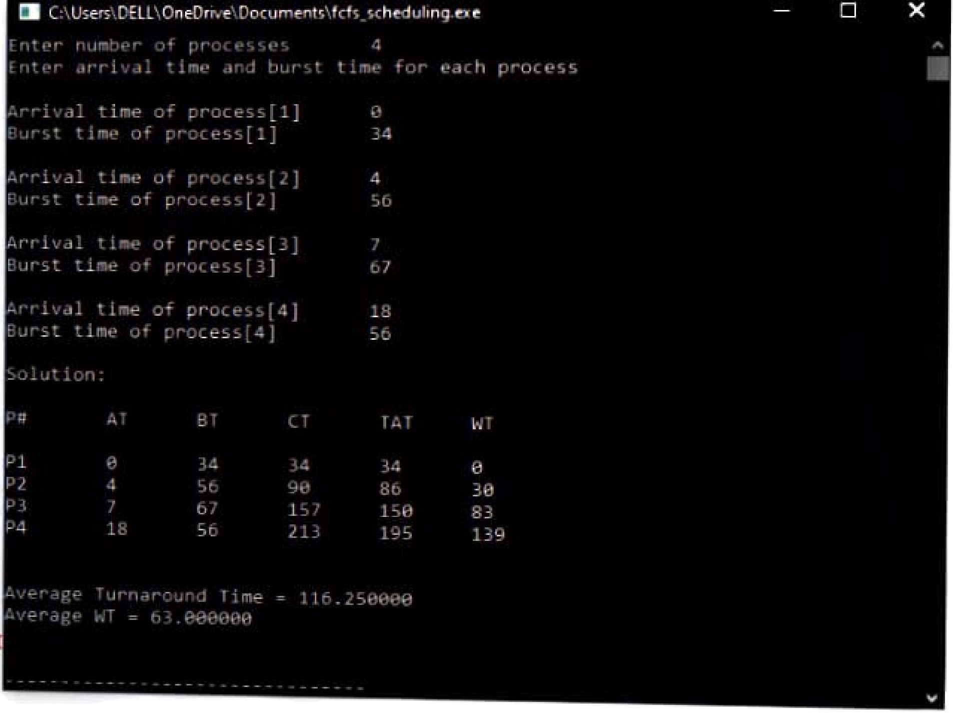
reenaasprgm.c

```c
#include<stdio.h>
#include<unistd.h>
#include<sys/types.h>
int main()
{
pid_t p;
printf("before fork\n");
p=fork();
if(p==0)
{
printf("I am child having ID %d\n",getpid());
printf("My parent's id is %d\n",getpid());
}
else
{
printf("My child's id is %d\n",p);
printf("I am parent having id %d\n",getpid());
}
printf("Common\n");
}
```

```
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~$ cd Desktop
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~/Desktop$ cc reenaasprgm.c
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~/Desktop$ ./a.out
before fork
My child's id is 2806
I am parent having id 2805
Common
I am child having ID 2806
My parent's id is 2806
Common
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~/Desktop$ 
```

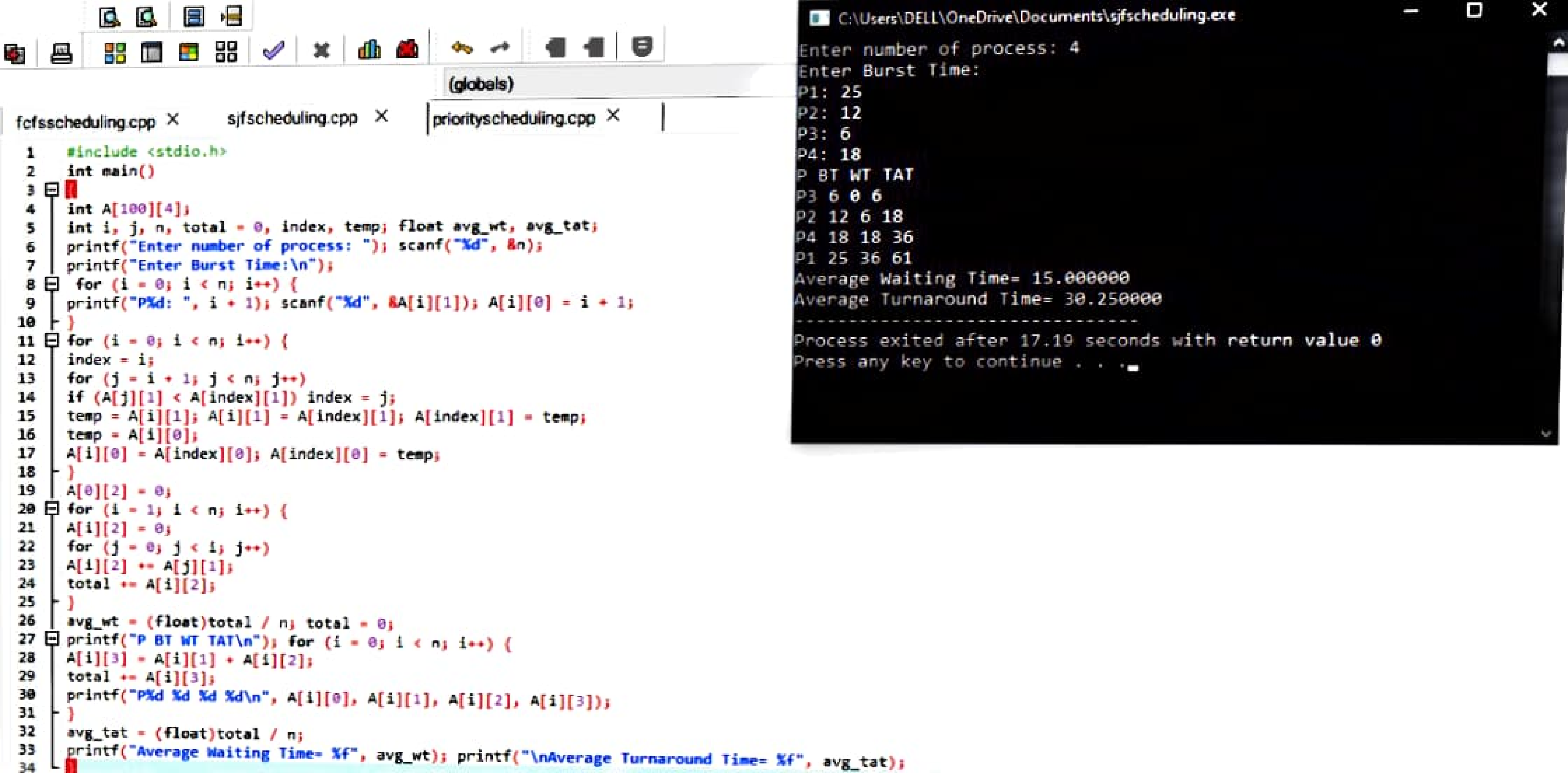


```c
#include<stdio.h>
int main()
{
    int bt[10]={0},at[10]={0},tat[10]={0},wt[10]={0},ct[10]={0};
    int n,sum=0;
    float totalTAT=0,totalWT=0;
    printf("Enter number of processes    ");
    scanf("%d",&n);
    printf("Enter arrival time and burst time for each process\n\n");
    for(int i=0;i<n;i++)
    {
        printf("Arrival time of process[%d] ",i+1);
        scanf("%d",&at[i]);
        printf("Burst time of process[%d]    ",i+1);
        scanf("%d",&bt[i]);
        printf("\n");
    }
    for(int j=0;j<n;j++)
    {
        sum+=bt[j];
        ct[j]+=sum;
    }
    for(int k=0;k<n;k++)
    {
        tat[k]=ct[k]-at[k];
        totalTAT+=tat[k];
    }
    for(int k=0;k<n;k++)
    {
        wt[k]=tat[k]-bt[k];
        totalWT+=wt[k];
    }
    printf("Solution: \n\n");
    printf("P#\t AT\t BT\t CT\t TAT\t WT\t\n\n");
    for(int i=0;i<n;i++)
    {
        printf("P%d\t %d\t %d\t %d\t %d\t %d\n",i+1,at[i],bt[i],ct[i],tat[
    }
    printf("\n\nAverage Turnaround Time = %f\n",totalTAT/n);
    printf("Average WT = %f\n\n",totalWT/n);
    return 0;
```



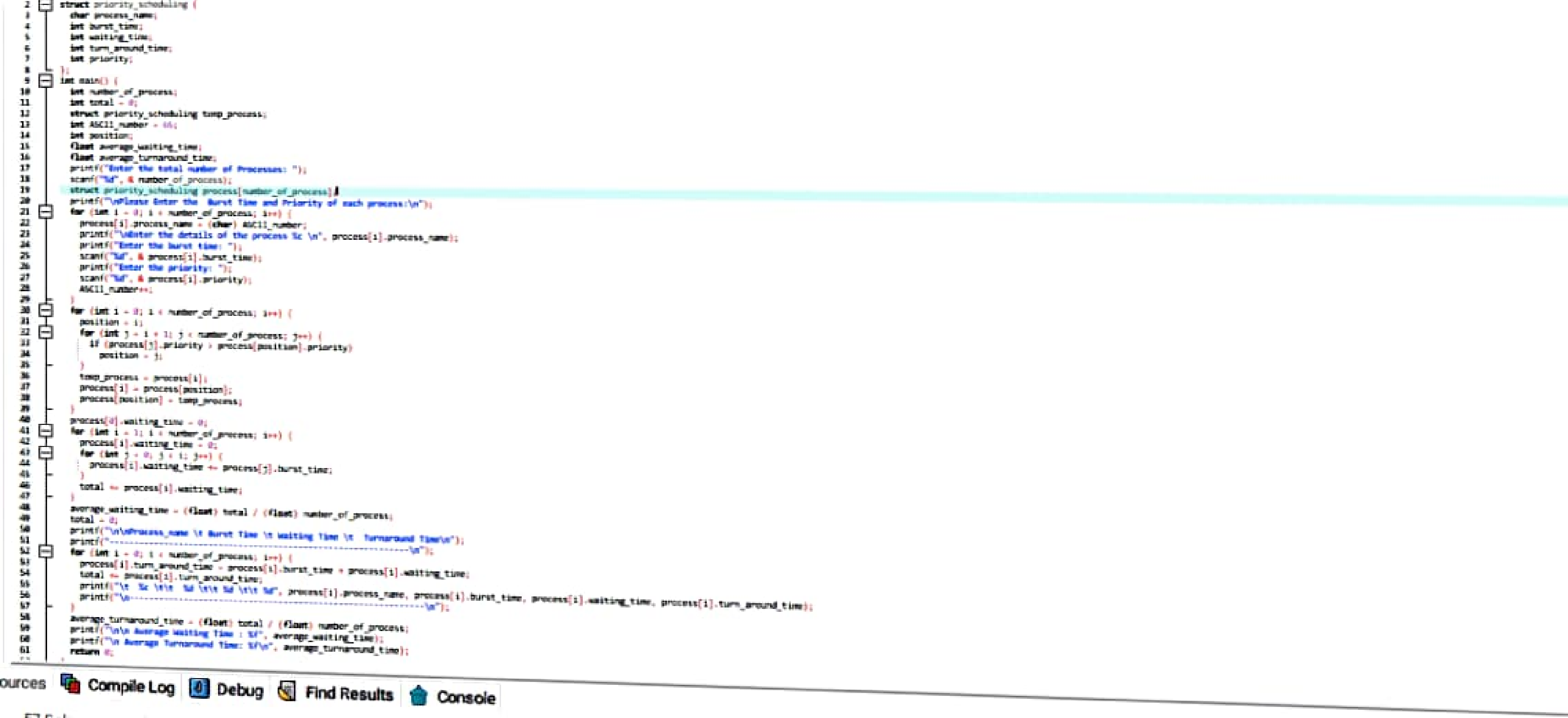
C:\Users\DELL\OneDrive\Documents\fcfs_scheduling.exe

```
Enter number of processes       4
Enter arrival time and burst time for each process

Arrival time of process[1]      0
Burst time of process[1]        34

Arrival time of process[2]      4
Burst time of process[2]        56

Arrival time of process[3]      7
Burst time of process[3]        67

Arrival time of process[4]      18
Burst time of process[4]        56

Solution:

P#       AT       BT       CT       TAT      WT

P1       0        34       34       34       0
P2       4        56       90       86       30
P3       7        67       157      150      83
P4       18       56       213      195      139


Average Turnaround Time = 116.250000
Average WT = 63.000000


--------------------------------
```

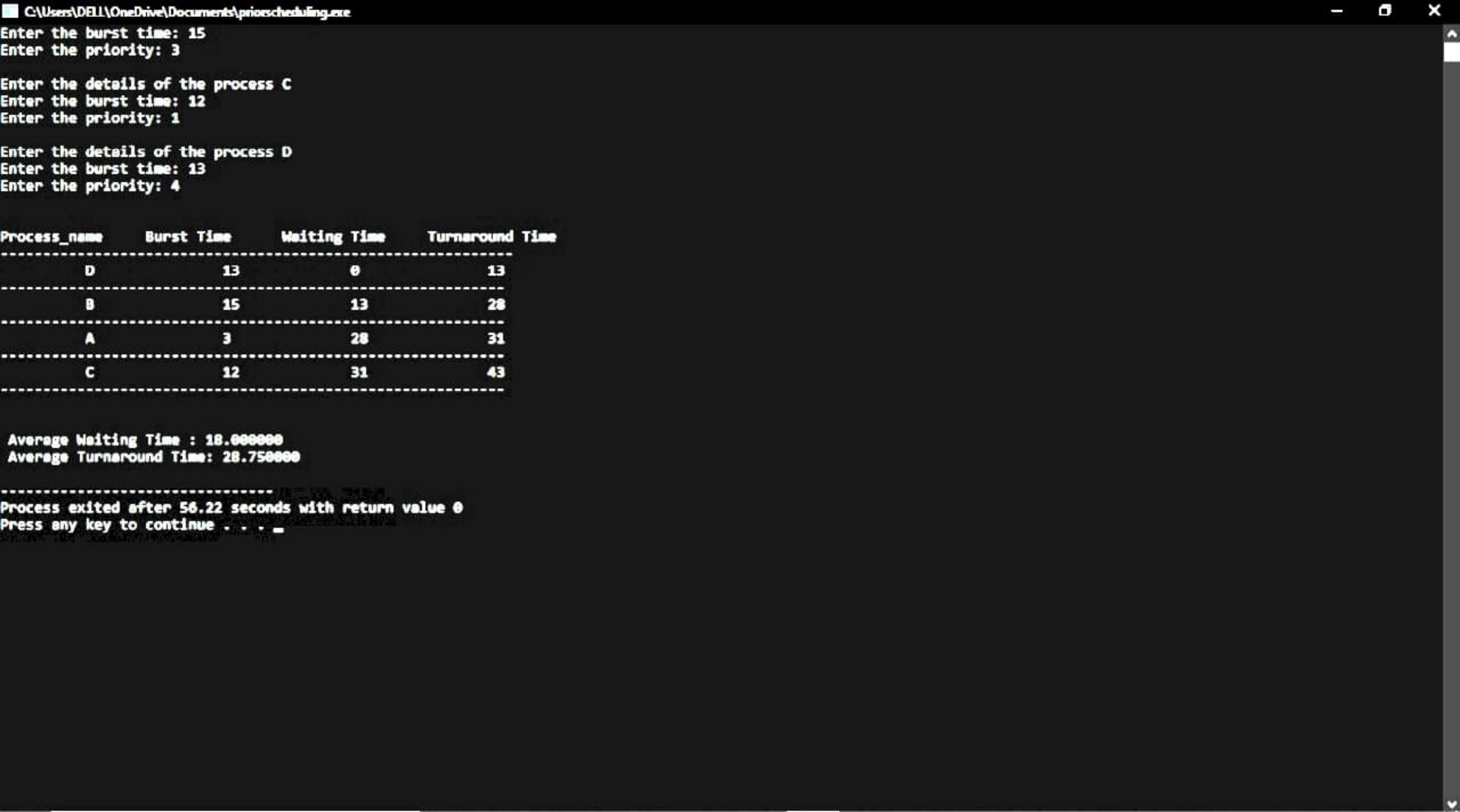


```
#include <stdio.h>
int main()
{
int A[100][4];
int i, j, n, total = 0, index, temp; float avg_wt, avg_tat;
printf("Enter number of process: "); scanf("%d", &n);
printf("Enter Burst Time:\n");
 for (i = 0; i < n; i++) {
printf("P%d: ", i + 1); scanf("%d", &A[i][1]); A[i][0] = i + 1;
}
for (i = 0; i < n; i++) {
index = i;
for (j = i + 1; j < n; j++)
if (A[j][1] < A[index][1]) index = j;
temp = A[i][1]; A[i][1] = A[index][1]; A[index][1] = temp;
temp = A[i][0];
A[i][0] = A[index][0]; A[index][0] = temp;
}
A[0][2] = 0;
for (i = 1; i < n; i++) {
A[i][2] = 0;
for (j = 0; j < i; j++)
A[i][2] += A[j][1];
total += A[i][2];
}
avg_wt = (float)total / n; total = 0;
printf("P BT WT TAT\n"); for (i = 0; i < n; i++) {
A[i][3] = A[i][1] + A[i][2];
total += A[i][3];
printf("P%d %d %d %d\n", A[i][0], A[i][1], A[i][2], A[i][3]);
}
avg_tat = (float)total / n;
printf("Average Waiting Time= %f", avg_wt); printf("\nAverage Turnaround Time= %f", avg_tat);
}
```

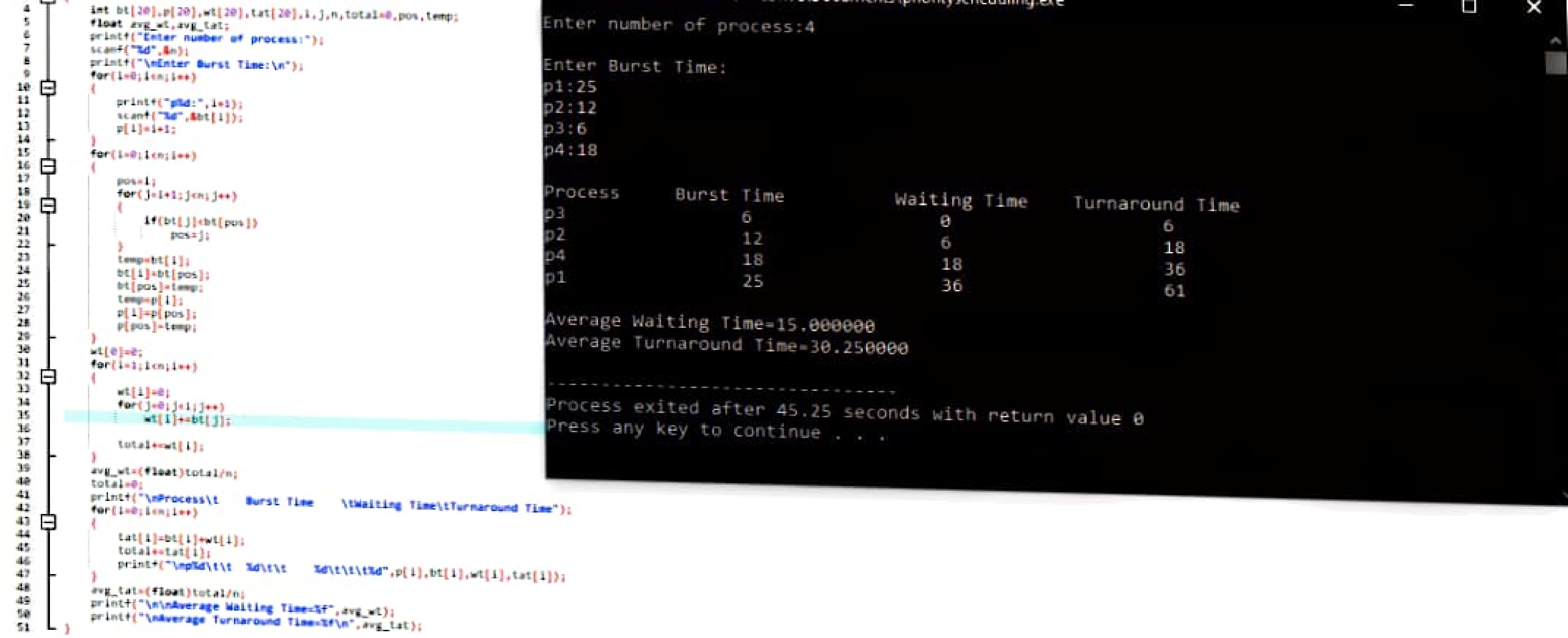
```
Enter number of process: 4
Enter Burst Time:
P1: 25
P2: 12
P3: 6
P4: 18
P BT WT TAT
P3 6 0 6
P2 12 6 18
P4 18 18 36
P1 25 36 61
Average Waiting Time= 15.000000
Average Turnaround Time= 30.250000
--------------------------------
Process exited after 17.19 seconds with return value 0
Press any key to continue . . .
```



```c
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;
  printf("Enter the total number of Processes: ");
  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++;
  }
  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].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;
}
```



```
Enter the burst time: 15
Enter the priority: 3

Enter the details of the process C
Enter the burst time: 12
Enter the priority: 1

Enter the details of the process D
Enter the burst time: 13
Enter the priority: 4


Process_name     Burst Time      Waiting Time     Turnaround Time
------------------------------------------------------------
         D               13             0               13
-----------------------------------------------------------
         B               15            13               28
-----------------------------------------------------------
         A                3            28               31
-----------------------------------------------------------
         C               12            31               43
-----------------------------------------------------------


 Average Waiting Time : 18.000000
 Average Turnaround Time: 28.750000

--------------------------------
Process exited after 56.22 seconds with return value 0
Press any key to continue . . . _
```



```c
{
    int bt[20],p[20],wt[20],tat[20],i,j,n,total=0,pos,temp;
    float avg_wt,avg_tat;
    printf("Enter number of process:");
    scanf("%d",&n);
    printf("\nEnter Burst Time:\n");
    for(i=0;i<n;i++)
    {
        printf("p%d:",i+1);
        scanf("%d",&bt[i]);
        p[i]=i+1;
    }
    for(i=0;i<n;i++)
    {
        pos=i;
        for(j=i+1;j<n;j++)
        {
            if(bt[j]<bt[pos])
                pos=j;
        }
        temp=bt[i];
        bt[i]=bt[pos];
        bt[pos]=temp;
        temp=p[i];
        p[i]=p[pos];
        p[pos]=temp;
    }
    wt[0]=0;
    for(i=1;i<n;i++)
    {
        wt[i]=0;
        for(j=0;j<i;j++)
            wt[i]+=bt[j];

        total+=wt[i];
    }
    avg_wt=(float)total/n;
    total=0;
    printf("\nProcess\t    Burst Time    \tWaiting Time\tTurnaround Time");
    for(i=0;i<n;i++)
    {
        tat[i]=bt[i]+wt[i];
        total+=tat[i];
        printf("\np%d\t\t  %d\t\t    %d\t\t\t%d",p[i],bt[i],wt[i],tat[i]);
    }
    avg_tat=(float)total/n;
    printf("\n\nAverage Waiting Time=%f",avg_wt);
    printf("\nAverage Turnaround Time=%f\n",avg_tat);
}
```

```
Enter number of process:4

Enter Burst Time:
p1:25
p2:12
p3:6
p4:18

Process     Burst Time        Waiting Time    Turnaround Time
p3              6                 0               6
p2              12                6               18
p4              18                18              36
p1              25                36              61

Average Waiting Time=15.000000
Average Turnaround Time=30.250000

--------------------------------
Process exited after 45.25 seconds with return value 0
Press any key to continue . . .
```