4. **Construct a scheduling program with C that selects the waiting process with the smallest execution time to execute next.**

**PROGRAM:**

#include<stdio.h>

int main()

{

int bt[20],p[20],wt[20],tat[20],i,j,n,total=0,pos,temp,floatavg\_wt,avg\_tat,avg\_wt;

printf("Enter number of process:");

scanf("%d",&n);

printf("\n Enter 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++)

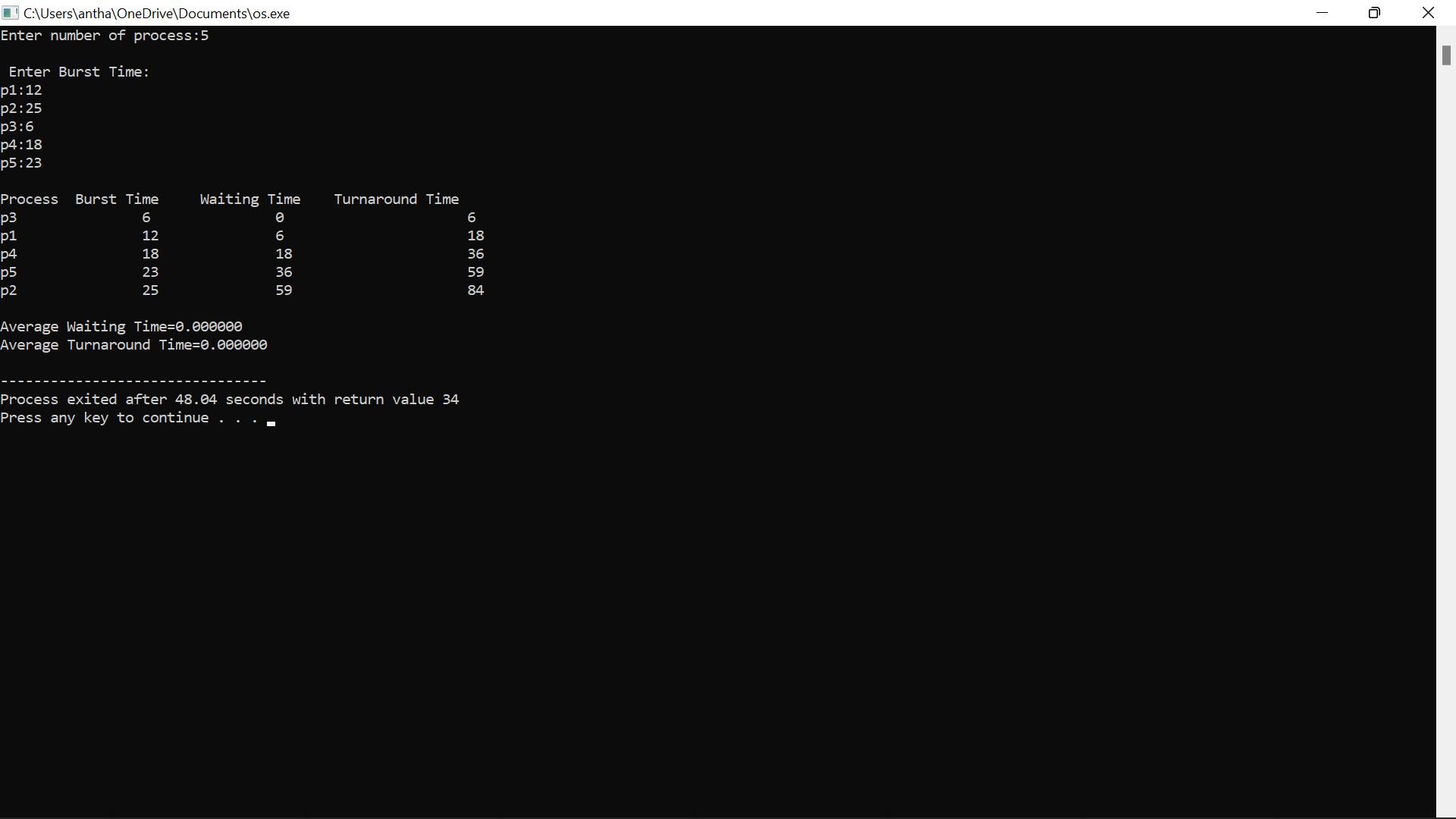
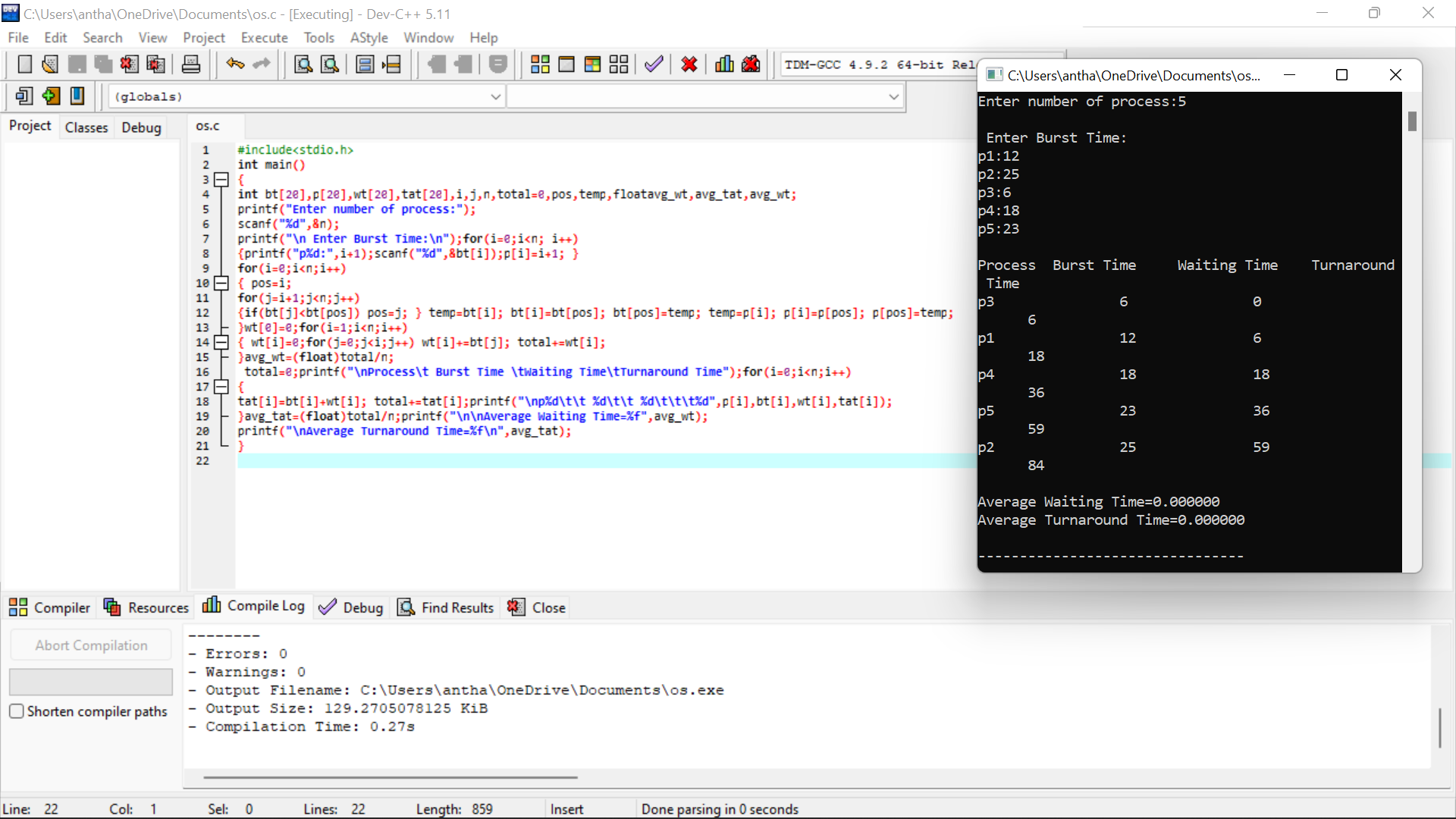
{

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);

}

**Input And Output: **