#include<stdio.h>

int main(){

int n,i,j,temp;

float avg\_wt,avg\_tat;

int tot\_wt=0,tot\_tat=0;

printf("Enter the number of processes 1,2,3,4,...n:");

scanf("%d",&n);

int bt[n],wt[n],tat[n],at[n],p[n];

for(i=0;i<n;i++){

printf("Enter the arrival time and burst time for p[%d]:",i+1);

scanf("%d %d",&at[i],&bt[i]);

p[i] = i+1;

}

for(i=0;i<n-1;i++){

for(j=0;j<n-1;j++){

if(at[j] > at[j+1]){

temp = at[j];

at[j] = at[j+1];

at[j+1] = temp;

temp = bt[j];

bt[j] = bt[j+1];

bt[j+1] = temp;

temp = p[j];

p[j] = p[j+1];

p[j+1] = temp;

}

}

}

int e=0,min,k=1;

for(j=0;j<n;j++){

e = e+bt[j];

min = bt[k];

for(i=k;i<n;i++){

if(e>=at[i] && bt[i] < min){

temp = at[j];

at[j] = at[j+1];

at[j+1] = temp;

temp = bt[j];

bt[j] = bt[j+1];

bt[j+1] = temp;

temp = p[j];

p[j] = p[j+1];

p[j+1] = temp;

}

}

k++;

}

wt[0] = 0;

for(i=1;i<n;i++){

wt[i] = 0;

for(j=0;j<i;j++){

wt[i] += bt[j];

}

}

for(i=0;i<n;i++){

wt[i]=wt[i] -at[i];

tat[i] = bt[i] +wt[i];

tot\_wt += wt[i];

tot\_tat += tat[i];

}

printf("\nProcess Burst Time Waiting Time Turnaround time");

for(i=0;i<n;i++){

printf("\n p[%d]\t\t%d\t\t%d\t\t%d",p[i],bt[i],wt[i],tat[i]);

}

avg\_wt = (float) tot\_wt/n;

avg\_tat = (float) tot\_tat/n;

printf("\nAverage Waiting Time = %.2f",avg\_wt);

printf("\nAverage Turnaround Time = %.2f",avg\_tat);

return 0;

}