#include<stdio.h>

int main(){

int i,limit,total = 0,x,counter = 0,time\_quantum;

int wt = 0,tat = 0,at[10],bt[10],temp[10];

float avg\_wt,avg\_tat;

printf("Enter Total Number of Processes: ");

scanf("%d", &limit);

x = limit;

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

printf("Enter Arrival Time and Burst Time of process %d:", i + 1);

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

temp[i] = bt[i];

}

printf("Enter Time Quantum: ");

scanf("%d", &time\_quantum);

printf("\nProcess\t\tBurst Time\t Waiting Time\t TurnAround Time");

for(total = 0, i = 0; x != 0;){

if(temp[i] <= time\_quantum && temp[i] > 0){

total = total + temp[i];

temp[i] = 0;

counter = 1;

}

else if(temp[i] > 0){

temp[i] = temp[i] - time\_quantum;

total = total + time\_quantum;

}

if(temp[i] == 0 && counter == 1){

x--;

printf("\nP[%d]\t\t %d\t\t %d\t\t\t%d",i+1,bt[i],total-at[i]-bt[i],total-at[i]);

wt = wt + total - at[i] - bt[i];

tat = tat + total - at[i];

counter = 0;

}

if(i == limit - 1){

i = 0;

}

else if(at[i + 1] <= total){

i++;

}

else{

i = 0;

}

}

avg\_wt = wt \* 1.0 / limit;

avg\_tat = tat \* 1.0 / limit;

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

printf("Average Turnaround Time:%.2f", avg\_tat);

return 0;

}