# include <iostream>

using namespace std;

int main()

{

int n;

cout<<" enter the no. of process";

cin>>n;

int bt[n],f,rem\_bt[n], wt[n], i ,t=0, tq,tat[n];

cout<<" enter the time quantum";

cin>>tq;

cout<<" enter the burst time";

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

cin>>bt[i];

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

rem\_bt[i]=bt[i];

while(true)

{

f=true;

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

{

if(rem\_bt[i]>0)

{

f= false;

if(rem\_bt[i]> tq)

{

t=t+tq;

rem\_bt[i]= rem\_bt[i]- tq;

}

else

{

t=t+rem\_bt[i];

wt[i]=t-bt[i];

rem\_bt[i]=0;

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

}

}

}

if(f==true)

break;

}

cout<<"the tat of processes are: \n";

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

cout<<tat[i]<<"\n";

cout<<"the wt of processes are: \n";

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

cout<<wt[i]<<"\n";

float sum=0;

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

sum=sum+wt[i];

float avgw=sum/n ;

sum=0;

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

sum=sum+tat[i];

float avgt=sum/n;

cout<<" \n the average waiting time "<<avgw;

cout<<" \n the average turn around time "<<avgt;

return 0;

}