/\*Round Robin(Preemptive)\*/

import java.util.\*;

import java.io.\*;

class RoundR

{

public static void main(String args[])

{

int Process[]=new int[10];

int a[]=new int[10];

int Arrival\_time[]=new int[10];

int Burst\_time[]=new int[10];

int WT[]=new int[10];

int TAT[]=new int[10];

int Pno,sum=0;;

int TimeQuantum;

System.out.println("\nEnter the no. of Process::");

Scanner sc=new Scanner(System.in);

Pno=sc.nextInt();

System.out.println("\nEnter each process::");

for(int i=0;i<Pno;i++)

{

Process[i]=sc.nextInt();

}

System.out.println("\nEnter the Burst Time of each process::");

for(int i=0;i<Pno;i++)

{

Burst\_time[i]=sc.nextInt();

}

System.out.println("\nEnter the Time Quantum::");

TimeQuantum=sc.nextInt();

do{

for(int i=0;i<Pno;i++)

{

if(Burst\_time[i]>TimeQuantum)

{

Burst\_time[i]-=TimeQuantum;

for(int j=0;j<Pno;j++)

{

if((j!=i)&&(Burst\_time[j]!=0))

WT[j]+=TimeQuantum;

}

}

else

{

for(int j=0;j<Pno;j++)

{

if((j!=i)&&(Burst\_time[j]!=0))

WT[j]+=Burst\_time[i];

}

Burst\_time[i]=0;

}

}

sum=0;

for(int k=0;k<Pno;k++)

sum=sum+Burst\_time[k];

} while(sum!=0);

for(int i=0;i<Pno;i++)

TAT[i]=WT[i]+a[i];

System.out.println("process\t\tBT\tWT\tTAT");

for(int i=0;i<Pno;i++)

{

System.out.println("process"+(i+1)+"\t"+a[i]+"\t"+WT[i]+"\t"+TAT[i]);

}

float avg\_wt=0;

float avg\_tat=0;

for(int j=0;j<Pno;j++)

{

avg\_wt+=WT[j];

}

for(int j=0;j<Pno;j++)

{

avg\_tat+=TAT[j];

}

System.out.println("average waiting time "+(avg\_wt/Pno)+"\n Average turn around time"+(avg\_tat/Pno));

}

}

/\*OUTPUT::

Enter the no. of Process::

5

Enter each process::

1

2

3

4

5

Enter the Burst Time of each process::

2

1

8

4

5

Enter the Time Quantum::

2

process BT WT TAT

process1 0 0 0

process2 0 2 2

process3 0 12 12

process4 0 9 9

process5 0 13 13

average waiting time 7.2

Average turn around time7.2 \*/