

```

import java.util.*;

class os
{
    public static void main(String ss[])
    {
        int arrival_time[]=new int[10];
        int bust_time[]=new int[10];
        int priority[]=new int[10];
        int temp[]=new int[10];
        int p[]=new int[10];

        int i,count=0,limit,total,z,j,time_quantum,x,b,pos,temp1;
        double avg_arrival_time,avg_wait_time,wait_time=0,turnarround_time=0,n1,n2,n3,n4;
        double avg_turnarround_time;

        Scanner sc=new Scanner(System.in);

        System.out.print("Enter the limit = ");
        limit=sc.nextInt();

        x=limit;

        System.out.print("\n\n*****Enter the Arrival time and Bust time *****\n\n");

        for(i=0;i<limit;i++)
        {
            p[i]=i+1;
            System.out.println();
            System.out.println();
            System.out.print("Enter the arival_time = ");
            arrival_time[i]=sc.nextInt();
            System.out.print("Enter the bust_time = ");

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        bust_time[i]=sc.nextInt();  
        temp[i]=bust_time[i];  
    }
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```
System.out.print("\n\nEnter the time quantum = ");  
time_quantum=sc.nextInt();
```

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

```
{
```

```
    for(z=0;z<limit;z++)
```

```
    {
```

```
        pos=z;
```

```
        for(j=z+1;j<limit;j++)
```

```
        {
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```
            if(priority[j]<priority[pos])
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```
                pos=j;
```

```
        }
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```
        temp1=priority[z];
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```
        priority[z]=priority[pos];
```

```
        priority[pos]=temp1;
```

```
        temp1=bust_time[z];
```

```
        bust_time[z]=bust_time[pos];
```

```
        bust_time[pos]=temp1;
```

```

        temp1=arrival_time[z];
        arrival_time[z]=arrival_time[pos];
        arrival_time[pos]=temp1;

        temp1=p[z];
        p[z]=p[pos];
        p[pos]=temp1;

        temp1=temp[z];
        temp[z]=temp[pos];
        temp[pos]=temp1;
    }

```

```

        if(temp[i] <= time_quantum && temp[i] > 0)
    {
        total = total + temp[i];
        temp[i] = 0;
        count = 1;
    }

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        else if(temp[i] > 0)
    {
        temp[i] = temp[i] - time_quantum;
        total = total + time_quantum;
    }

```

```

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

```

```

        if(b==i)
            priority[b]+=1;
        else
            priority[b]+=2;
    }

if(temp[i] == 0 && count == 1)
{
    x--;
    System.out.println();
    System.out.println();
    System.out.println("process = "+p[i]);
    System.out.println("Bust time = "+bust_time[i]);

    //n1=total-arrival_time[i];

    // n2=total-arrival_time[i]-bust_time[i];

    wait_time = wait_time + total - arrival_time[i] - bust_time[i];
    System.out.println("waiting time = "+wait_time);
    turnarround_time = turnarround_time + total - arrival_time[i];
    System.out.println("turnarround_time = "+turnarround_time);

    count = 0;
}
if(i == limit - 1)
{
    i = 0;

}

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

```

```
{  
    i++;  
  
    }  
  
else  
{  
    i = 0;  
  
    }  
}
```

```
        n3=wait_time/limit;  
        n4=turnarround_time/limit;  
        System.out.println();  
        System.out.println();  
        System.out.println("average wait_time = "+n3);  
        System.out.println("average turnarround time = "+n4);  
  
    }  
  
}
```