

## **Priority**

```
import java.util.*;

public class priority
{
    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);

        System.out.println("Enter no of process : ");
        int n= sc.nextInt();
        int pid[] = new int[n];
        int at[] = new int[n];
        int bt[] = new int[n];
        int prio[] = new int[n];
        int ct[] = new int[n];
        int tat[] = new int[n];
        int wt[] = new int[n];
        int f[] = new int [n];
        int i,temp, st=0, tot=0;
        float avg_wt=0, avg_tat=0;
        for (i=0;i<n;i++)
        {
            pid[i]= i+1;
            System.out.println ("Enter arrival time of process " +(i+1)+ ":");
            at[i]= sc.nextInt();
            System.out.println("Enter burst time of process " +(i+1)+ ":");
            bt[i]= sc.nextInt();
            System.out.println("Enter priority of process " +(i+1)+ ":")
```

```

prio[i]= sc.nextInt();
    }

    for(i=0 ; i<n; i++)
    {
        for(int j=0; j<n-(i+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 = pid[j];
                pid[j] = pid[j+1];
                pid[j+1] = temp;
                temp=prio[j];
                prio[j]=prio[j+1];
                prio[j+1]=temp;
            }
        }
    }

    while(true)
    {
        int min=99,c=n;

```

```

if (tot==n)
    break;

for (i=0;i<n;i++)
{
    if ((at[i]<=st) && (f[i]==0) && (bt[i]<min))
    {
        min=bt[i];
        c=i;
    }
}

if (c==n)
    st++;
else
{
    ct[c]= st+bt[c];
    st=st+bt[c];
    f[c]=1;
    tot++;
}

for(i=0 ; i<n; i++)
{
    for(int j=0; j<n-(i+1) ; j++)
    {
        if( st>at[j] && st>at[j+1] && f[j]==0)

```

```

        {
            if(prio[j]>prio[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 = pid[j];
                pid[j] = pid[j+1];
                pid[j+1] = temp;
                temp=prio[j];
                prio[j]=prio[j+1];
                prio[j+1]=temp;
            }
        }

    }

}

for(i=0 ; i<n; i++)
{
    if( i == 0)
    {
        ct[i]= at[i]+bt[i];
    }
}

```

```

        else
        {
            if( at[i]>ct[i-1])
            {
                ct[i]= at[i] +bt[i];
                f[i]=1;
            }
            else
            {
                ct[i]= ct[i-1] +bt[i];
                f[i]=1;
            }
        }
        tat[i] = ct[i] - at[i] ;
        wt[i] = tat[i] - bt[i] ;
        avg_wt += wt[i] ;
        avg_tat += tat[i] ;
    }

    System.out.println("Pid\tAT\tBT\tPRIO\tCT\tTAT\tWT\n");

    for(i=0;i<n;i++)
    {
        System.out.println(pid[i] +"\t"+ at[i]+" \t"+bt[i] +"\t"+prio[i]
+ "\t"+ ct[i] + "\t"+ tat[i] + "\t"+ wt[i]);
    }

    System.out.print("\n Average Wait Time : "+avg_wt/n);
    System.out.print("\n Average Turn Around Time : "+avg_tat/n);

}
}

```

```
eclipse-workspace - fctf/src/priority.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Problems Javadoc Declaration Console x Debug
<terminated> priority [Java Application] C:\Program Files\Java\jdk-18.0.2\bin\javaw.exe (26-Sep-2022, 10:06:01 am - 10:07:15 am) [pid: 9096]
Enter no of process :
5
Enter arrival time of process 1:
5
Enter burst time of process 1:
2
Enter priority of process 1:
3
Enter arrival time of process 2:
7
Enter burst time of process 2:
4
Enter priority of process 2:
2
Enter arrival time of process 3:
8
Enter burst time of process 3:
8
Enter priority of process 3:
1
Enter arrival time of process 4:
10
Enter burst time of process 4:
4
Enter priority of process 4:
5
Enter arrival time of process 5:
11
Enter burst time of process 5:
2
Enter priority of process 5:
4
```

```
eclipse-workspace - fctf/src/priority.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Problems Javadoc Declaration Console x Debug
<terminated> priority [Java Application] C:\Program Files\Java\jdk-18.0.2\bin\javaw.exe (26-Sep-2022, 10:06:01 am - 10:07:15 am) [pid: 9096]
Enter burst time of process 2:
4
Enter priority of process 2:
2
Enter arrival time of process 3:
8
Enter burst time of process 3:
8
Enter priority of process 3:
1
Enter arrival time of process 4:
10
Enter burst time of process 4:
4
Enter priority of process 4:
5
Enter arrival time of process 5:
11
Enter burst time of process 5:
2
Enter priority of process 5:
4
Pid    AT    BT    PRIO  CT    TAT    WT
1      5     2     3     7     2     0
2      7     4     2    11     4     0
3      8     8     1    19    11     3
5     11     2     4    21    10     8
4     10     4     5    25    15    11

Average Wait Time : 4.4
Average Turn Around Time : 8.4
```