

Ex. No.: 6c)

Date:

PRIORITY SCHEDULING

Aim:

To implement priority scheduling technique

Algorithm:

1. Get the number of processes from the user.
2. Read the process name, burst time and priority of process.
3. Sort based on burst time of all processes in ascending order based priority 4.
4. Calculate the total waiting time and total turnaround time for each process 5.
5. Display the process name & burst time for each process.
6. Display the total waiting time, average waiting time, turnaround time

Program Code:

```
#include<stdio.h>
int main()
{
    int bt[20],p[20],wt[20],tat[20],pr[20],i,j,n,total=0,pos,temp,avg_wt,avg_tat;
    printf("Enter Total Number of Process:");
    scanf("%d",&n);

    printf("\nEnter Burst Time and Priority\n");
    for(i=0;i<n;i++)
    {
        printf("\nP[%d]\n",i+1);
        printf("Burst Time:");
        scanf("%d",&bt[i]);
        printf("Priority:");
        scanf("%d",&pr[i]);
        p[i]=i+1; //contains process number
    }
    //sorting burst time, priority and process number in ascending order using selection sort
    for(i=0;i<n;i++)
    {
        pos=i;
        for(j=i+1;j<n;j++)
        {
            if(pr[j]<pr[pos])
                pos=j;
        }
        temp=pr[i];
        pr[i]=pr[pos];
        pr[pos]=temp;

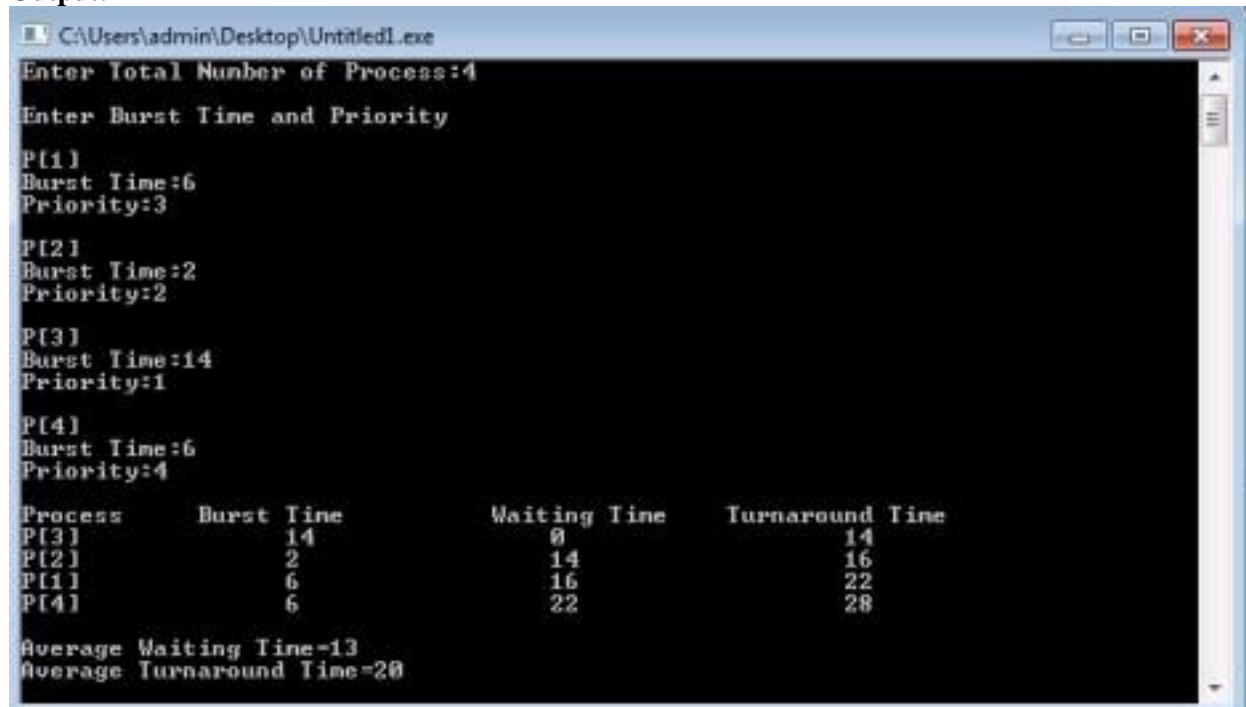
        temp=bt[i];
        bt[i]=bt[pos];
        bt[pos]=temp;
        temp=p[i];
        p[i]=p[pos];
        p[pos]=temp;
    }
}
```

```

p[i]=p[pos];
p[pos]=temp;
}
wt[0]=0; //waiting time for first process is zero
//calculate waiting time
for(i=1;i<n;i++)
{
wt[i]=0;
for(j=0;j<i;j++)
wt[i]+=bt[j];
total+=wt[i];
}
avg_wt=total/n; //average waiting time
total=0;
printf("\nProcess\tBurst Time \tWaiting Time\tTurnaround Time");
for(i=0;i<n;i++)
{
tat[i]=bt[i]+wt[i]; //calculate turnaround time
total+=tat[i];
printf("\nP[%d]\t\t %d\t\t %d\t\t %d",p[i],bt[i],wt[i],tat[i]); }
avg_tat=total/n; //average turnaround time
printf("\n\nAverage Waiting Time=%d",avg_wt);
printf("\n\nAverage Turnaround Time=%d\n",avg_tat);
return 0;
}

```

Output:



```

C:\Users\admin\Desktop\Untitled1.exe
Enter Total Number of Process:4
Enter Burst Time and Priority
P[1]
Burst Time:6
Priority:3
P[2]
Burst Time:2
Priority:2
P[3]
Burst Time:14
Priority:1
P[4]
Burst Time:6
Priority:4
Process      Burst Time      Waiting Time      Turnaround Time
P[3]          14              0                14
P[2]          2              14              16
P[1]          6              16              22
P[4]          6              22              28
Average Waiting Time=13
Average Turnaround Time=28

```