Mawlana Bhashani Science and Technology University

Lab-Report

Report No: 09

Course code: ICT-3110

Course title: Operating System Lab

Date of Performance: 18-09-2020

Date of Submission:

Submitted by

Name: Jannatul Ferdush Dhina

ID:IT-18012

3rd year 1st semester

Session: 2017-2018

Dept. of ICT

MBSTU.

Submitted To

Nazrul Islam

Assistant Professor

Dept. of ICT

MBSTU.

Experiment no: 09

Experiment Name: Implementation of Priority Scheduling Algorithm.

Theory:

Priority Scheduling is a method of scheduling processes that is based on priority. In this algorithm, the scheduler selects the tasks to work as per the priority. The processes with higher priority should be carried out first, whereas jobs with equal priorities are carried out on a round-robin or FCFS basis.

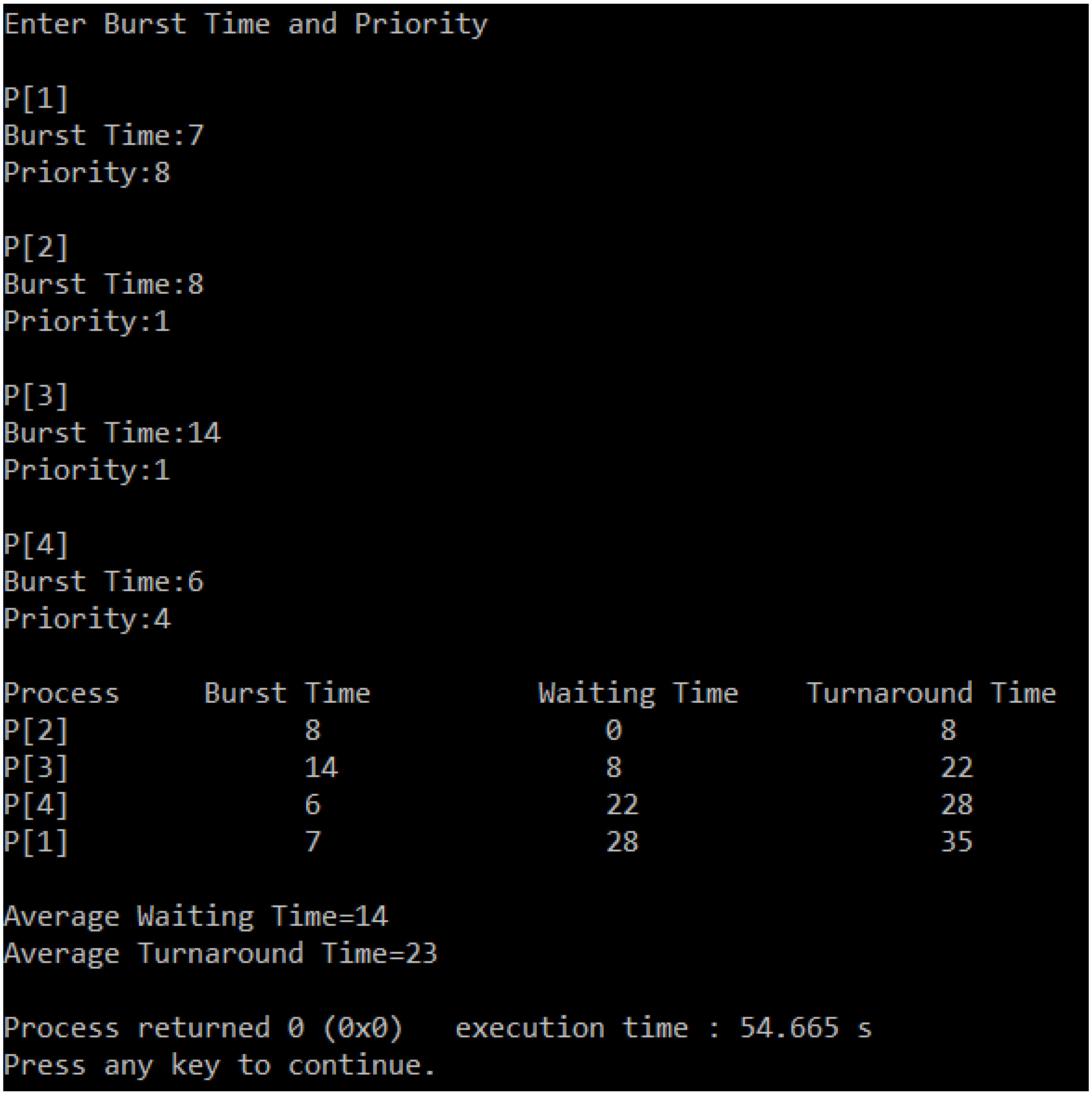
Working Process:

```
#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;
    }
```

```
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;
}

wt[0]=0;
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;
    total=0;

    printf("\nProcess\t    Burst Time    \tWaiting Time\tTurnaround Time");
    for(i=0; i<n; i++)
    {
        tat[i]=bt[i]+wt[i];
        total+=tat[i];
        printf("\nP[%d]\t\t  %d\t\t    %d\t\t\t%d",p[i],bt[i],wt[i],tat[i]);
    }

    avg_tat=total/n;
    printf("\n\nAverage Waiting Time=%d",avg_wt);
    printf("\nAverage Turnaround Time=%d\n",avg_tat);

    return 0;
}
```

Output Sample:



```
Enter Burst Time and Priority

P[1]
Burst Time:7
Priority:8

P[2]
Burst Time:8
Priority:1

P[3]
Burst Time:14
Priority:1

P[4]
Burst Time:6
Priority:4

Process     Burst Time          Waiting Time    Turnaround Time
P[2]              8                 0                   8
P[3]              14                8                   22
P[4]              6                 22                  28
P[1]              7                 28                  35

Average Waiting Time=14
Average Turnaround Time=23

Process returned 0 (0x0)   execution time : 54.665 s
Press any key to continue.
```

Discussion:

This lab helped to learn Priority Scheduling algorithm. Now we can solve this kind of problem further.