Mawlana Bhashani Science and Technology University

Lab-Report

Lab Report No: 09
Lab Report Name: Implementation of Priority Scheduling Algorithm
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Name of the Lab Report: Implementation of Priority Scheduling Algorithm

Objective: Priority Scheduling algorithm Definition & executable code in c are followed.

1. What is priority Scheduling algorithm?

Answer: Priority scheduling is a non-preemptive algorithm and one of the most common scheduling algorithms in batch systems. Each process is assigned a priority. Process with highest priority is to be executed first and so on. Processes with same priority are executed on first come first served basis. Priority can be decided based on memory requirements, time requirements or any other resource requirement.

2. How to implemented in C?

Answer:

Source Code:

```
#include <stdio.h>

int main()

{


    int BuT[20],WaT[20],p[20],TaT[20],priority[20];

    float avwt=0,avtat=0;


    int i,j,n,temp,key;


    printf("\nEnter the number of the processes: ");


    scanf("%d",&n);


    for(i=1;i<=n;i++)


    {
```

```
        printf("\nEnter the burst time and priority of the process P[%d]: ",i);

        scanf("%d",&BuT[i]);
        scanf("%d",&priority[i]);
        p[i]=i;

}

for(i=0;i<n;i++)
{
        key=i;
        for(j=i+1;j<n;j++)
        {
            if(priority[j]<priority[key])
            {
                key=j;
            }
        }
        temp=BuT[i];
        BuT[i]=BuT[key];
        BuT[key]=temp;

        temp=priority[i];
        priority[i]=priority[key];
        priority[key]=temp;

        temp=p[i];
        p[i]=p[key];
```

```
    p[key]=temp;
}


WaT[0]=0;
TaT[0]=BuT[0];
avtat=TaT[0];

for(i=1;i<n;i++)
{

        WaT[i]=WaT[i-1]+BuT[i-1];

        TaT[i]=TaT[i-1]+BuT[i];

        avwt+=WaT[i];

        avtat+=TaT[i];

}

avwt=avwt/n;
avtat=avtat/n;

printf("\n\nPROCESS\t\twaiting time\tburst time\tTurnaround time\n");

printf("\n");

for(i=0;i<n;i++)
```

```
    {

        printf("P[%d]\t\t%d\t\t%d\t\t%d\n",p[i],WaT[i],BuT[i],TaT[i]);

    }

    printf("\n\nAverage waiting time: %.2f",avwt);
    printf("\n\nAverage Turn around time is: %.2f",avtat);
    printf("\n");

    return 0;

}
```

Output:

```
/home/arif/Documents/Priority Algorithm

Enter the number of the processes: 2

Enter the burst time and priority of the process P[1]: 12 2

Enter the burst time and priority of the process P[2]: 19 1

PROCESS         waiting time    burst time      Turnaround time

P[1]            0               12              12
P[0]            12              2               14

Average waiting time: 6.00

Average Turn around time is: 13.00
```

Conclusion: In this lab, we learnt about Priority Scheduling Algorithm. The algorithm is implemented with C programming language. In this algorithm, if we continously give processes and burst time, it returns the average waiting time and turnaround time. And this tasks are useful in linux.