Mawlana Bhashani Science and Technology University

Lab-Report

Report No: 07

Course code: ICT-3110

Course title: Operating Systems Lab

Date of Performance :

Date of Submission : 12/09/2020

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3rd year 1stsemester

Session: 2017-2018

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Experiment No : 7

Experiment Name : Implementation of FCFS scheduling algorithm.

Theory :

In the "First come first serve" scheduling algorithm, as the name suggests, the process which arrives first, gets executed first, or we can say that the process which requests the CPU first, gets the CPU allocated first.

- First Come First Serve, is just like FIFO(First in First out) Queue data structure, where the data element which is added to the queue first, is the one who leaves the queue first.
- This is used in Batch Systems.
- It's easy to understand and implement programmatically, using a Queue data structure, where a new process enters through the tail of the queue, and the scheduler selects process from the head of the queue.
- A perfect real life example of FCFS scheduling is buying tickets at ticket counter.

Working Process :

Implementation in C language

```
#include<stdio.h>
#include<conio.h>

int main()
{

   int n,exeTime[100],wTime=0,tAT=0;
   int i;
   float awt, atat, _awt=0, _atat=0;
   printf("Enter number of processes :");
   scanf("%d",&n);
```

```
    for(i=0; i<n; i++)
    {
        printf("Enter exe time for process %d :", i+1);
        scanf("%d",&exeTime[i]);
    }
    printf("\n\nPid \t\t BT \t\t wt \t\t TAT");
    for(i=0; i<n; i++)
    {
        tAT=exeTime[i] + wTime;
        printf("\n%d \t\t %d \t\t %d \t\t %d",i+1,exeTime[i],wTime,tAT);
        _awt +=wTime;
        _atat +=tAT;
        wTime +=exeTime[i];
    }

    awt = _awt/n;
    atat = _atat/n;

    printf("\nAverage waiting time : %f",awt);
    printf("\nAverage turn around time : %f",atat);
    getch();
}
```

Output :

```
Enter number of processes :3
Enter exe time for process 1 :5
Enter exe time for process 2 :9
Enter exe time for process 3 :2

Pid             BT              wt              TAT
1               5               0               5
2               9               5               14
3               2               14              16
Average waiting time : 6.333333
Average turn around time : 11.666667
Process returned 0 (0x0)   execution time : 4.712 s
Press any key to continue.
```

Discussion :

From this lab we have implemented this algorithm using C language. This lab helps to learn FCFS (First Come First Serve) scheduling algorithm