

## Lab-Report

Report No: 07

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Course title: Operating Systems Lab

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## **Experiment No : 7**

**Experiment Name** : Implementation of FCFS scheduling algorithm.

### **Theory :**

First Come First Serve (FCFS) is an operating system scheduling algorithm that automatically executes queued requests and processes in order of their arrival. It is the easiest and simplest CPU scheduling algorithm. In this type of algorithm, processes which requests the CPU first get the CPU allocation first. This is managed with a FIFO queue. The full form of FCFS is First Come First Serve.

As the process enters the ready queue, its PCB (Process Control Block) is linked with the tail of the queue and, when the CPU becomes free, it should be assigned to the process at the beginning of the queue.

- It supports non-preemptive and pre-emptive scheduling algorithm.
- Jobs are always executed on a first-come, first-serve basis.
- It is easy to implement and use.
- This method is poor in performance, and the general wait time is quite high.

### **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 :**

This lab helps to learn FCFS (First Come First Serve) scheduling algorithm. We have implemented this algorithm using C language. In future we can solve any problem of this algorithm.