Mawlana Bhashani Science and Technology University

Lab-Report

Report No:

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Lab report name: Implementation of FCFS Scheduling Algorithm

Objectives:

- 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.

Question No.1 What is FCFS Scheduling Algorithm?

Answer: FCFS is an operating system scheduling algorithm that automatically executes queued requests and processes by order of their arrival. It supports non-preemptive and pre-emptive scheduling algorithm.

Question no.2. How to implementation in C
Answer:

```
#include<iostream>

using namespace std;

void findWaitingTime(int processes[], int n,
                                        int bt[], int wt[])
{
        wt[0] = 0;


        for (int i = 1; i < n ; i++ )
                wt[i] = bt[i-1] + wt[i-1] ;
}
void findTurnAroundTime( int processes[], int n,
                                int bt[], int wt[], int tat[])
{
```

```
        // calculating turnaround time by adding
        // bt[i] + wt[i]
        for (int i = 0; i < n ; i++)
                tat[i] = bt[i] + wt[i];
}

void findavgTime( int processes[], int n, int bt[])
{
        int wt[n], tat[n], total_wt = 0, total_tat = 0;
        findWaitingTime(processes, n, bt, wt);

        findTurnAroundTime(processes, n, bt, wt, tat);

        cout << "Processes "<< " Burst time "
                << " Waiting time " << " Turn around time\n";

        for (int i=0; i<n; i++)
        {
                total_wt = total_wt + wt[i];
                total_tat = total_tat + tat[i];
                cout << " " << i+1 << "\t\t" << bt[i] <<"\t "
                        << wt[i] <<"\t\t " << tat[i] <<endl;
        }

        cout << "Average waiting time = "
                << (float)total_wt / (float)n;
```

```
        cout << "\nAverage turn around time = "
             << (float)total_tat / (float)n;
}
int main()
{

        int processes[] = { 1, 2, 3};
        int n = sizeof processes / sizeof processes[0];



        int burst_time[] = {10, 5, 8};

        findavgTime(processes, n, burst_time);
        return 0;
}
```

Output:

```
Processes  Burst time  Waiting time  Turn around time
 1         10          0           10
 2         5          10           15
 3         8          15           23
Average waiting time = 8.33333
Average turn around time = 16
```

Conclusion:

FCFS stands for First Come First Serve.A real-life example of the FCFS method is buying a movie ticket on the ticket counter.It is the simplest form of a CPU scheduling algorithm.It is a Non-Preemptive CPU scheduling algorithm, so after the process has been allocated to the CPU, it will never release the CPU until it finishes executing.