Mawlana Bhashani Science and Technology University

Lab-Report

Report No: 07

Course code: ICT-3110

Course title: Operating System Lab

Date of Performance:

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Submitted by

Name: Moniruzzaman

ID:IT-18007

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Dept. of ICT

MBSTU.

Submitted To

Nazrul Islam

Assistant Professor

Dept. of ICT

MBSTU.

Experiment No :- 07

Experiment Name :- Implementation of FCFS Scheduling algorithm .

Objectives:

i What is FCFS Scheduling algorithm.

ii How to implementation in C

Theory :

First Come First Served (FCFS) is a **Non-Preemptive** scheduling algorithm. FIFO (First In First Out) strategy assigns priority to process in the order in which they request the processor. The process that requests the CPU first is allocated the CPU first. This is easily implemented with a FIFO queue for managing the tasks. As the process come in, they are put at the end of the queue. As the CPU finishes each task, it removes it from the start of the queue and heads on to the next task.

Implementation:

1. Take input of burst time and process.
2. Calculate **waiting time = starting time – arrival time.**
3. Calculate **turnaround time = burst time + waiting time.**

Process	Arrival time	Burst time
P1	0	80
P2	0	20
P3	0	10
P4	0	20
P5	0	80

Grant chart:

P1	P2	P3	P4	P5

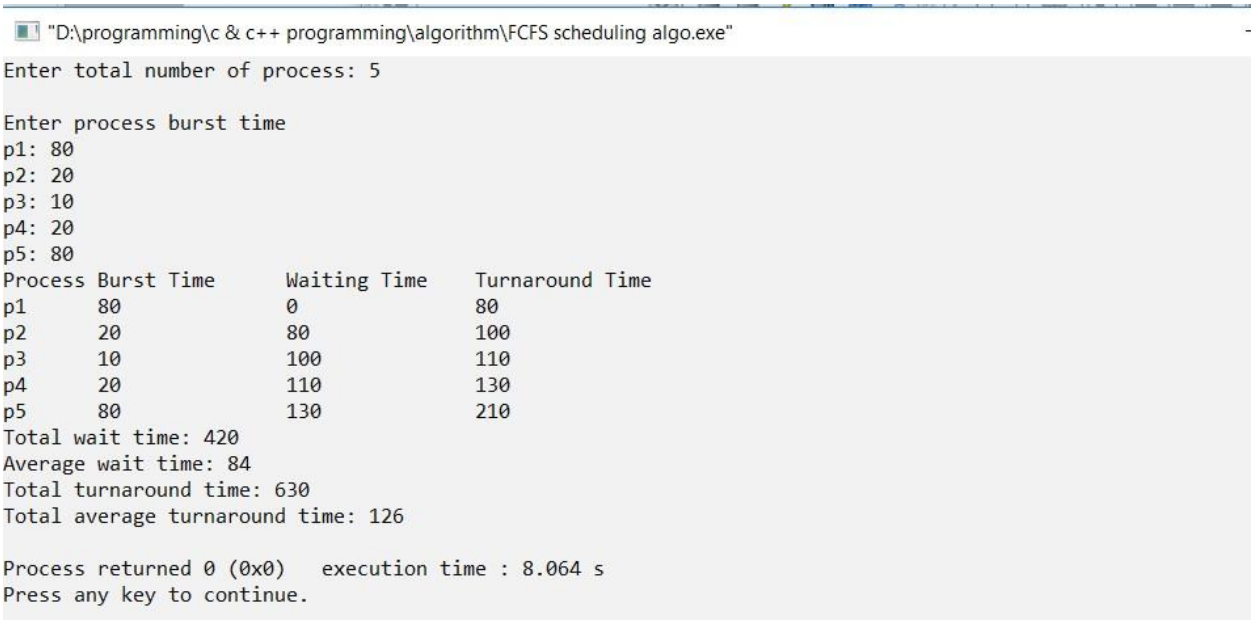
0 80 100 110 130 210

Process	Arrival time(At)	Burst time(Bt)	Waiting time Wt=st-at	Total turnaround time Tat=wt+bt
P1	0	80	0	80
P2	0	20	80	100
P3	0	10	100	110
P4	0	20	110	130
P5	0	80	130	210

Source code:

```
#include<bits/stdc++.h>
using namespace std;
int main()
{
	int n,bt[100],i,j,wt=0,tat;
double twt=0,ttat=0;
	cout<<"Enter total number of process: ";
cin>>n;
	cout<<endl<<"Enter process burst time"<<endl;
for(i=1;i<=n;i++)
	{
		cout<<"p"<<i<<": ";
		cin>>bt[i];
	}
	bt[0]=0;
	cout<<"Process\tBurst Time\tWaiting Time\tTurnaround Time"<<endl;
for(i=1;i<=n;i++)
	{
		cout<<"p"<<i<<"\t"<<bt[i];
		wt+=bt[i-1];
twt+=wt;
		cout<<"\t\t"<<wt;
tat=bt[i]+wt;
		ttat+=tat;
		cout<<"\t\t"<<tat<<endl;
	}
	cout<<"Total wait time: "<<twt<<endl;
	cout<<"Average wait time: "<<double(twt/n)<<endl;
	cout<<"Total turnaround time: "<<ttat<<endl;
	cout<<"Total average turnaround time: "<<double(ttat/n)<<endl;
}
```

Output:



Conclusion:

In this lab I learn about FCFS scheduling algorithm. I also implement It in c language. The output result is as expected.