National University of Modern Languages

Lab Report#01

Roll # 2340

Class: BSCS 5B Morning

Subject: Operating System(Lab)

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FCFS(Without Arrival Time):

```
// C++ program for implementation of FCFS
// scheduling
#include<iostream>
using namespace std;

// Function to find the waiting time for all
// processes
void findWaitingTime(int processes[], int n,int bt[], int wt[])
{
	// waiting time for first process is 0
	wt[0] = 0;

	// calculating waiting time
	for (int i = 1; i < n ; i++ )
		wt[i] = bt[i-1] + wt[i-1] ;
}

// Function to calculate turn around time
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];
```

```
}

//Function to calculate average time
void findavgTime( int processes[], int n, int bt[])
{
	int wt[n], tat[n], total_wt = 0, total_tat = 0;

	//Function to find waiting time of all processes
	findWaitingTime(processes, n, bt, wt);

	//Function to find turn around time for all processes
	findTurnAroundTime(processes, n, bt, wt, tat);

	//Display processes along with all details
	cout << "Processes "<< " Burst time "<< " Turn around time  " << "Waiting time\n";

	// Calculate total waiting time and total turn
	// around time
	for (int i=0; i<n; i++)
	{
		total_wt = total_wt + wt[i];
		total_tat = total_tat + tat[i];
		cout << "P" << i+1 << "\t\t" << bt[i] <<"\t\t "<< tat[i] <<"\t\t" << wt[i] <<endl;
	}
```

```
        cout << "Average waiting time = "<< (float)total_wt / (float)n;
        cout << "\nAverage turn around time = "<< (float)total_tat / (float)n;
}

// Driver code
int main()
{
        //process id's
        int processes[] = { 1, 2, 3,4};
        int n = sizeof processes / sizeof processes[0];

        //Burst time of all processes
        int burst_time[] = {21,3,6,2};

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

Output:

```
Processes  Burst time  Turn around time  Waiting time
P1              21                21              0
P2              3                 24              21
P3              6                 30              24
P4              2                 32              30
Average waiting time = 18.75
Average turn around time = 26.75

...Program finished with exit code 0
```