

# **Government Engineering College Thrissur**

## **CS331 – System Software Lab Documentation** **Exp1 – CPU Scheduling Algorithm**

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### **Experiment 1:**

Simulate the following non-preemptive CPU scheduling algorithms to find turnaround time and waiting time.

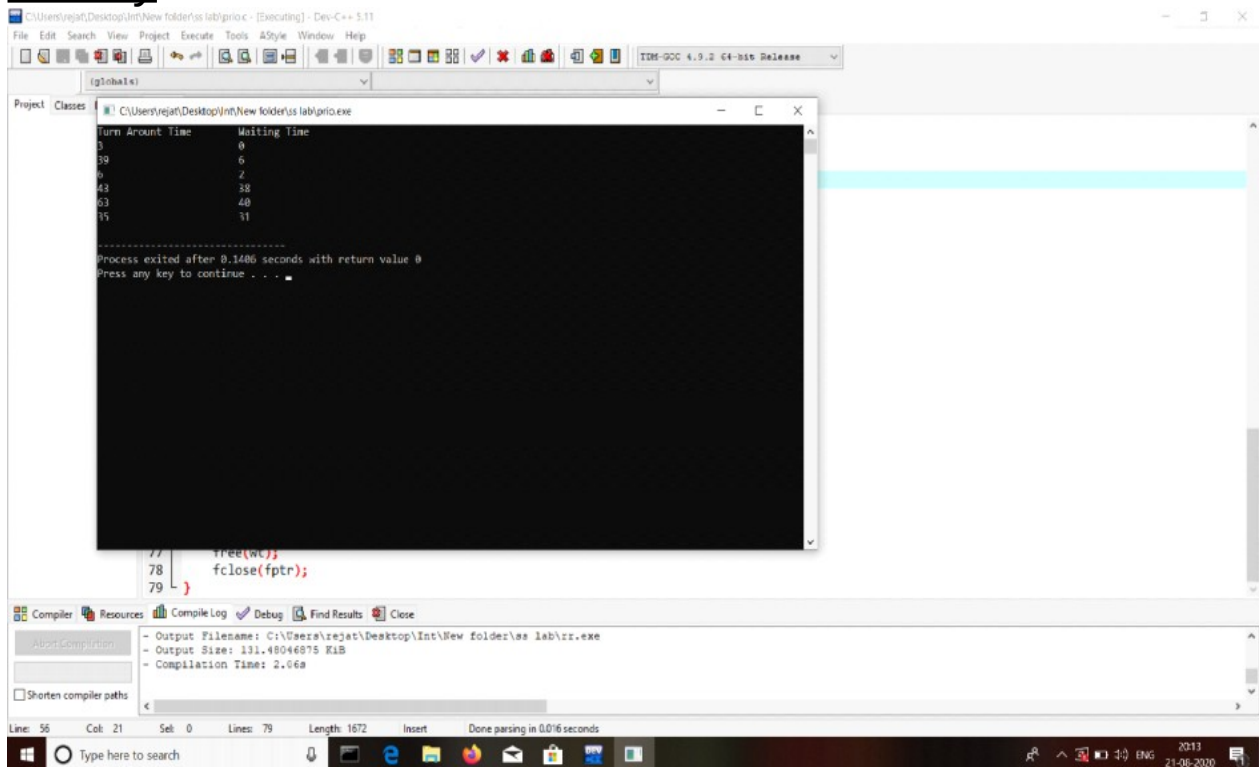
1. FCFS 2. SJF 3. Round Robin(pre-emptive) 4. Priority

### **Compilation of Code Prerequisite**

- The code is provided in the **program.c** file along with its documentation. You just need to run it on any compiler.
- As output you will first see the input. If you want to change input the change in the **input.txt** file int format Number<tab>number<tab>number as AT,BT and Priority respectively.
- Out put of the file will be stored in the **output.txt** file as well as terminal or compiler in which it is executed.
- 

## Output Screenshots

### Priority



The screenshot shows a Dev-C++ IDE with a project named 'labprio.c'. The terminal window displays the following output:

```

Turn Around Time    Waiting Time
3                  0
39                 6
9                  2
43                 38
63                 40
35                 31

.....
Process exited after 0.1406 seconds with return value 0
Press any key to continue . . .

```

The compiler window shows the following details:

```

- Output Filename: C:\Users\rejet\Desktop\Int\New folder\as lab\pr.exe
- Output Size: 131.48046875 KiB
- Compilation Time: 2.06s

```

The source code window shows the following code:

```

77 free(wt);
78 fclose(fpnr);
79

```

### Round Robin

The screenshot shows a C++ IDE with a console window displaying the output of a Round Robin scheduling algorithm. The output is as follows:

```
Round Robin
Turn Arount Time    Waiting Time
3                    0
11                   18
21                   17
18                   13
14                   11
19                   15

.....
Process exited after 0.1451 seconds with return value 0
Press any key to continue . . .
```

The code in the background shows a function for Round Robin scheduling:

```
36
37
38 FILE *fptr;
39 if ((fptr = fopen("input.txt", "r")) == NULL) {
40     printf("Error! opening file");
41     exit(1);
42 }
```

The IDE status bar shows: Line: 28, Col: 14, Sel: 0, Lines: 81, Length: 1936, Insert, Done parsing in 0.016 seconds.

The screenshot shows a C++ IDE with a console window displaying the output of a First-Come-First-Served (FCFS) scheduling algorithm. The output is as follows:

```
FCFS
Turn Arount Time    Waiting Time
3                    0
25                   2
19                   35
19                   34
19                   36
19                   59

.....
Process exited after 0.148 seconds with return value 0
Press any key to continue . . .
```

The code in the background shows a function for FCFS scheduling:

```
40 //selecting FCFS scheduling algorithm
41 findFcfsTime(n, at, bt, tat, wt);
42 printf("FCFS\n");
43 printf("Turn Arount Time\\Waiting Time\\n");
44 for (i=0; i < n; i++){
45     printf("%d\\t\\t\\t\\t\\n", *(tat + i), *(wt + i));
46 }
47
48
```

The IDE status bar shows: Page 3 of 3.

FCFS

SJF

