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**OS LAB (Scheduling Non-Preemptive)**

Q. Write a C program to implement FCFS and SJF scheduling algorithms. Find the individual WAITING TIME and turnaround time for processes.

**FCFS:**

#include <stdio.h>

*int* main(*void*)

{

*int* AT[5] = {2, 5, 1, 0, 4};

*int* BT[5] = {6, 2, 8, 3, 4};

*int* WT[5], CT[5], TAT[5];

*int* sum = 0;

*int* sumTAT = 0, sumWT = 0;

*int* min;

    printf("\nProcess\tAT\tBT\tCT\tTAT\tWT\n");

    //finding minimum arrival time

    for (*int* i = 0; i < 5; i++)

    {

        min = i;

        for (*int* j = i + 1; j < 5; j++)

        {

            if (AT[min] > AT[j])

            {

                min = j;

            }

        }

        //calculating

        sum += BT[min];

        CT[i] = sum;

        TAT[i] = CT[i] - AT[min];

        WT[i] = TAT[i] - BT[min];

        printf("%d\t%d\t%d\t%d\t%d\t%d\n", (i + 1), AT[min], BT[min], CT[i], TAT[i], WT[i]);

        sumTAT += TAT[i];

        sumWT += WT[i];

        //pushing the mimimum arrival time behind 'i' so it wont interfere

*int* temp = AT[min];

        AT[min] = AT[i];

        AT[i] = temp;

        //doing the same for burst time

        temp = BT[min];

        BT[min] = BT[i];

        BT[i] = temp;

    }

    printf("\nAverage Turnaround Time: %d\n", (sumTAT/5));

    printf("Average of Waiting Time: %d\n", (sumWT/5));

    return 0;

}

**Output:**

**Process AT BT CT TAT WT**

**1 0 3 3 3 0**

**2 1 8 11 10 2**

**3 2 6 17 15 9**

**4 4 4 21 17 13**

**5 5 2 23 18 16**

**Average Turnaround Time: 12**

**Average Waiting Time: 8**

**SJS:**