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#include<stdio.h>

struct priority_scheduling
{
    char process_name;
    int burst_time,waiting_time,turn_around_time,priority;
};

int main()
{
    int number_of_process,total = 0,ASCII_number = 65,position,i,j;
    struct priority_scheduling temp_process;
    float average_waiting_time;
    float average_turnaround_time;
    printf("Enter the total number of Processes: ");
    scanf("%d", & number_of_process);
    struct priority_scheduling process[number_of_process];
    printf("\nPlease Enter the Burst Time and Priority of each process:\n");
    for (i = 0; i < number_of_process; i++)
    {
        process[i].process_name = (char) ASCII_number;
        printf("\nEnter the details of the process %c \n", process[i].process_name);
        printf("Enter the burst time: ");
        scanf("%d", & process[i].burst_time);
        printf("Enter the priority: ");
        scanf("%d", & process[i].priority);
        ASCII_number++;
    }
    for (i = 0; i < number_of_process; i++)
    {
        position = i;
        for (j = i + 1; j < number_of_process; j++)
            {

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    if (process[j].priority > process[position].priority)
        position = j;
}
temp_process = process[i];
process[i] = process[position];
process[position] = temp_process;
}
process[0].waiting_time = 0;
for (i = 1; i < number_of_process; i++)
{
    process[i].waiting_time = 0;
    for (j = 0; j < i; j++) {
        process[i].waiting_time += process[j].burst_time;
    }
    total += process[i].waiting_time;
}
average_waiting_time = (float) total / (float) number_of_process;
total = 0;
printf("\n\nProcess_name \t Burst Time \t Waiting Time \t Turnaround Time\n");
printf("-----\n");
for (i = 0; i < number_of_process; i++)
{
    process[i].turn_around_time = process[i].burst_time + process[i].waiting_time;
    total += process[i].turn_around_time;

    printf("\t %c \t\t %d \t\t %d \t\t %d", process[i].process_name, process[i].burst_time,
process[i].waiting_time, process[i].turn_around_time);

    printf("\n-----\n");
}
average_turnaround_time = (float) total / (float) number_of_process;
printf("\n\n Average Waiting Time : %f", average_waiting_time);
printf("\n Average Turnaround Time: %f\n", average_turnaround_time);

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return 0;
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}
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