Week 3 OS LAB

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Q. Priority Scheduling using C language (non-preemptive)

INPUT :

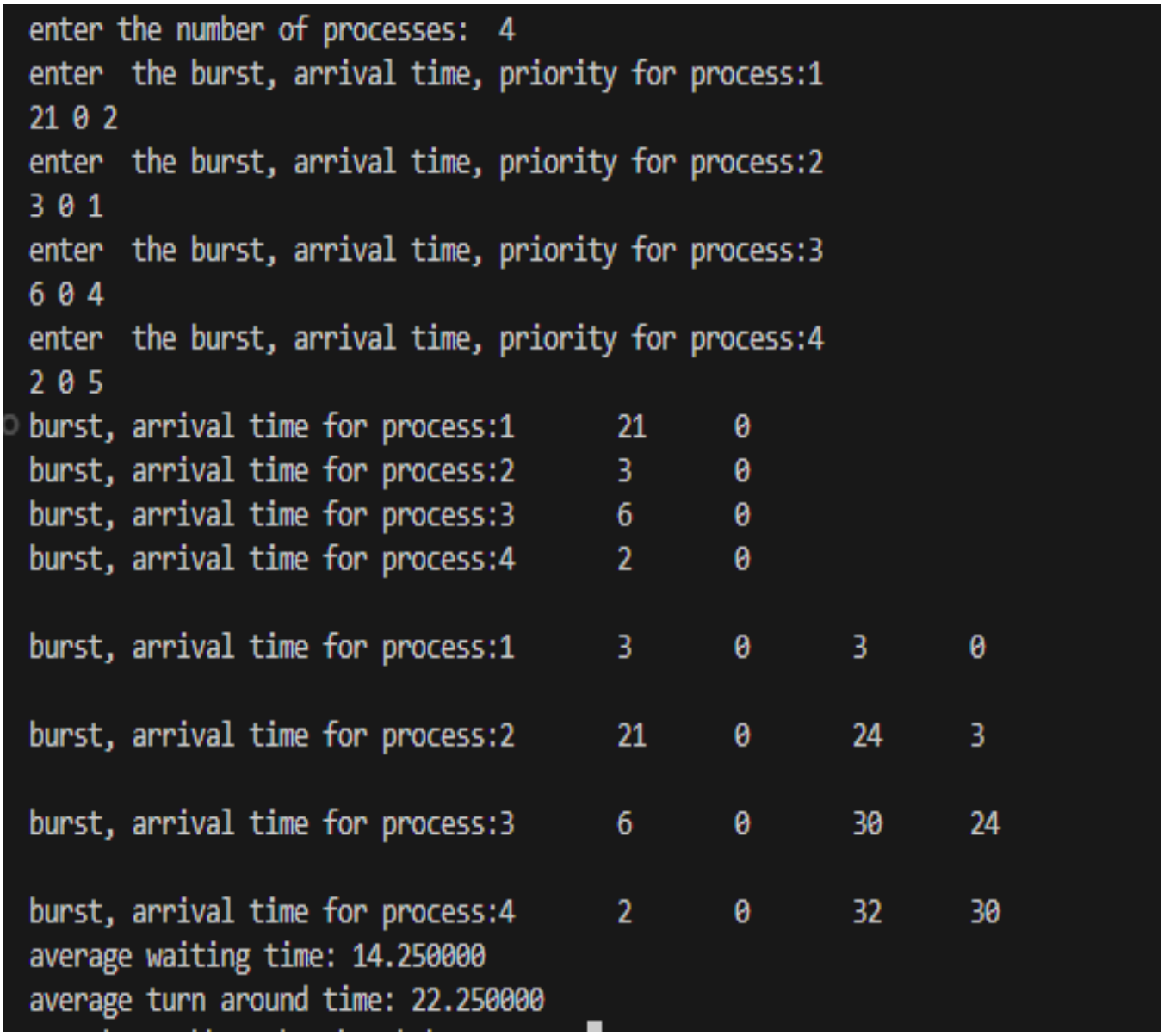
```
#include <stdio.h>
struct process{
    int burst;
    int arr_time;
    int waiting_time;
    int priority;
    int turn_time;
};
typedef struct process proc;

void priority(proc processes[],int n){
    int comp_time=0;
    float avg_tat=0;
    float avg_wait=0;
    proc temp;
    for(int i=0;i<n-1;i++){
        for(int j=0;j<n-i-1;j++){
            if(processes[j+1].priority<processes[j].priority){
                temp=processes[j];
                processes[j]=processes[j+1];
                processes[j+1]=temp;
            }
        }
    }
    for(int i=0;i<n;i++){
```

```
        comp_time+=processes[i].burst;
        processes[i].turn_time=comp_time-processes[i].arr_time;
        avg_tat+=processes[i].turn_time;
    }
    for(int i=0;i<n;i++){
        processes[i].waiting_time=processes[i].turn_time-processes[i].burst;
        avg_wait+=processes[i].waiting_time;
    }
    for(int i=0;i<n;i++){
        printf("\nburst, arrival time for process:%d\t",i+1);
        printf("%d\t",processes[i].burst);
        printf("%d\t",processes[i].arr_time);
        printf("%d\t",processes[i].turn_time);
        printf("%d\n",processes[i].waiting_time);
    }
    printf("average waiting time: %f\n",avg_wait/n);
    printf("average turn around time: %f\n",avg_tat/n);
}
int main(){
    int n;
    printf("enter the number of processes:\t");
    scanf("%d",&n);
    proc processes[n];
    for(int i=0;i<n;i++){
        printf("enter  the burst, arrival time, priority for process:%d\n",i+1);
        scanf("%d",&processes[i].burst);
        scanf("%d",&processes[i].arr_time);
        scanf("%d",&processes[i].priority);
    }
    for(int i=0;i<n;i++){
        printf("burst, arrival time for process:%d\t",i+1);
        printf("%d\t",processes[i].burst);
        printf("%d\n",processes[i].arr_time);
    }
    priority(processes,n);
```

}

Output :


enter the number of processes: 4
enter the burst, arrival time, priority for process:1
21 0 2
enter the burst, arrival time, priority for process:2
3 0 1
enter the burst, arrival time, priority for process:3
6 0 4
enter the burst, arrival time, priority for process:4
2 0 5
burst, arrival time for process:1 21 0
burst, arrival time for process:2 3 0
burst, arrival time for process:3 6 0
burst, arrival time for process:4 2 0
burst, arrival time for process:1 3 0 3 0
burst, arrival time for process:2 21 0 24 3
burst, arrival time for process:3 6 0 30 24
burst, arrival time for process:4 2 0 32 30
average waiting time: 14.250000
average turn around time: 22.250000