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Mock Test

Q :- Write a C program to implement FCFS scheduling algorithams, and find out the turnaround time for each process and the average turnaround time and average waiting time for all jobs. There is a four batch jobs, P_0 through P_3, arrive time 0, 1, 2, 3. They have an estimate CPU time of 6, 8, 10 and 11 minutes, respectively.

Algorithm

Step 1 :- Start
Step 2 :- Read the elements in array
Step 3 :- Input the processes along with their burst time (bt).
Step 4 :- Find waiting time (wt) for all process
Step 5 :- As first process that comes need not to wait so waiting time for process 1 will be

i.e. wt[0] = 0;
Step 6:- Find waiting time for all other processes i.e. for process i -> wt[i] = bt[i-1] + wt[i-1].
Step 7:- Find turnaround time = waiting time + burst time for all processes.
Step 8:- Find average waiting time = total waiting time / no. of processes.
Step 9:- Similarly, find average turnaround time = total turnaround time / no of processes.
Step 10:- Stop.

Coding

```
#include<stdio.h>
#include<string.h>
int main()
{
char pn[10][10], t[10];
int arr[10], bur[10], star[10], finish[10], tat[10], wt[10], i, j, n,
temp;
int totwt = 0, totat = 0;
printf("Enter the no. of processes: ");
scanf("%d", &n);
for(i=0; i<n; i++)
printf("Enter the process Name, arrival time & burst time: ");
scanf("%s%d%d", &pn[i], &arr[i], &bur[i]);
for(i=0; i<n; i++)
```

```
for(j=0;j<n;j++)
{
if(arr[i]<arr[j])
{
temp=arr[i];
arr[i]=arr[j];
arr[j]=temp;
temp=burr[i];
burr[i]=burr[j];
burr[j]=temp;
strcpy(t,pn[i]);
strcpy(pn[i],pn[j]);
strcpy(pn[j],t);
}
}
}
for(i=0;i<n;i++)
{
if(i==0)
start[i]=arr[i];
else
start[i]=finish[i-1];
wt[i]=start[i]-arr[i];
finish[i]=start[i]+burr[i];
tat[i]=finish[i]-arr[i];
}
printf("\nPName Arrtime Burttime Waittime Start
TAT Finish");
for(i=0;i<n;i++)
{
```

printf("\n%d\t%d\t%d\t%d\t%d\t%d", pn[i], arr[i], bur[i], wt[i], status[i], tat[i]);

totwt += wt[i];
totTat += tat[i];
}
printf("\n Average Waiting time : %f", (float)totwt/n);
printf("\n Average Turn Around time : %f", (float)totTat/n);
return 0;
}

Output

Enter the number of processes: 4
Enter the Arrival time: 0, 1, 2, 3
Enter the Burst time: 6, 8, 10, 11

P. Name	Arr time	Burst time	Wait time	TAT time
P_0	0	6	0	6
P_1	1	8	5	13
P_2	2	10	12	22
P_3	3	11	21	32

Average Waiting Time: 9.500
Average Turn Around Time: 18.25000