OPERATING SYSTEMS

LAB DIGITAL ASSIGNMENT - 3

Course Code : SWE3001 Slot : L25+L26

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Compute Average waiting Time (AWT) & Average Turnaround Time (ATT) for the following data given below using First Come First Serve (FCFS) Scheduling algorithm. For implementation use UNIX 'C' language.

Processes	Arrival Time	CPU Time
VLC	08:00:00	3
Word	08:02:00	6
PPT	08:04:00	4
Firefox	08:06:00	5
Chrome	08:08:00	2

Code :

```
#include<stdio.h>
int main()
{
 int AT[10],BT[10],WT[10],TT[10],n;
 int burst=0,cmpl_T;
 float Average_WaitingTime,Average_TurnaroundTime,Total=0;
 printf("Enter the number of the process to be executed in the program \n");
```

```
scanf("%d",&n);
printf("Enter the Arrival time and Burst time of the process below\n");
printf("AT\t\tBT\n");
for(int i=0;i<n;i++)
{
scanf("%d%d",&AT[i],&BT[i]);
}

for(int i=0;i<n;i++)
{
if(i==0)
WT[i]=AT[i];
else
WT[i]=burst-AT[i];
burst+=BT[i];
Total+=WT[i];
}
Average_WaitingTime=Total/n;
cmpl_T=0;
Total=0;
for(int i=0;i<n;i++)
{
cmpl_T+=BT[i];
TT[i]=cmpl_T-AT[i];
Total+=TT[i];
}
Average_TurnaroundTime=Total/n;
```

```
printf("Process ,Waiting_time ,TurnAround_time\n");
for(int i=0;i<n;i++)
{
printf("%d\t\t%d\t\t%d\n",i+1,WT[i],TT[i]);
}
printf("Average waiting time is : %f\n",Average_WaitingTime);
printf("Average turn around time is : %f\n",Average_TurnaroundTime);
return 0;
}
```

Output :

Question3.c
~/Desktop/Lab

```
#include<stdio.h>

int main()
{
 int AT[10],BT[10],WT[10],TT[10],n;
 int burst=0,cmpl_T;
 float Average_WaitingTime,Average_TurnaroundTime,Total=0;
 printf("Enter the number of the process to be executed in the program \n");
 scanf("%d",&n);
 printf("Enter the Arrival time and Burst time of the process below\n");
 printf("AT\t\tBT\n");
 for(int i=0;i<n;i++)
 {
 scanf("%d%d",&AT[i],&BT[i]);
 }

 for(int i=0;i<n;i++)
 {
 if(i==0)
 WT[i]=AT[i];
 else
 WT[i]=burst-AT[i];
 burst+=BT[i];
 Total+=WT[i];
 }
 Average_WaitingTime=Total/n;
 cmpl_T=0;
 Total=0;
 for(int i=0;i<n;i++)
 {
 cmpl_T+=BT[i];
 TT[i]=cmpl_T-AT[i];
 Total+=TT[i];
 }
 Average_TurnaroundTime=Total/n;

 printf("Process ,Waiting_time ,TurnAround_time\n");
 for(int i=0;i<n;i++)
 {
 printf("%d\t\t%d\t\t%d\n",i+1,WT[i],TT[i]);
 }
 printf("Average waiting time is : %f\n",Average_WaitingTime);
 printf("Average turn around time is : %f\n",Average_TurnaroundTime);
 return 0;
}
```

```
deepan2001@ubuntu:~$ cd Desktop
deepan2001@ubuntu:~/Desktop$ cd Lab
deepan2001@ubuntu:~/Desktop/Lab$ gcc Question3.c
deepan2001@ubuntu:~/Desktop/Lab$ ./a.out
Enter the number of the process to be executed in the program
5
Enter the Arrival time and Burst time of the process below
AT              BT
0               3
2               6
4               4
6               5
8               2
Process ,Waiting_time ,TurnAround_time
1               0               3
2               1               7
3               5               9
4               7               12
5               10              12
Average waiting time is : 4.600000
Average turn around time is : 8.600000
deepan2001@ubuntu:~/Desktop/Lab$
```


```
deepan2001@ubuntu:~$ cd Desktop
deepan2001@ubuntu:~/Desktop$ cd Lab
deepan2001@ubuntu:~/Desktop/Lab$ gcc Question3.c
deepan2001@ubuntu:~/Desktop/Lab$ ./a.out
Enter the number of the process to be executed in the program
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Process ,Waiting_time ,TurnAround_time
1               0               3
2               1               7
3               5               9
4               7               12
5               10              12
Average waiting time is : 4.600000
Average turn around time is : 8.600000
deepan2001@ubuntu:~/Desktop/Lab$
```