OS LAB WEEK 1

Q. Write a C program to implement First Come First Serve.

Code:

```c
#include<stdio.h>

#include<stdlib.h>

int proc[10],burst_time[10],arrival[10],tat[10],n; double avg,avg1; int comp,total_tat;

void main()
{
printf("\n Enter the size of n:");

scanf("%d",&n);

for(int i=0;i<n;i++)

{

printf("\n Enter the processor number:");

scanf("%d",&proc[i]);

printf("\n Enter the burst time and arrival time :");

scanf("%d%d",&burst_time[i],&arrival[i]);

}

comp=burst_time[0]-arrival[0];

avgtime(proc,n,burst_time,arrival);

}
```

```c
void avgtime(int proc[],int n,int burst_time[],int arrival[])
{
int wait_time[n],tat[n],total_wt=0;
waitingtime(proc,n,burst_time,wait_time,arrival);

for(int i=0;i<n;i++)
{
total_wt+=wait_time[i];
}
avg=(double)total_wt/n;
avg1=(double)total_tat/n;
printf("\n Average wait time:%lf \n Average TAT:%lf",avg,avg1);
}

void waitingtime(int proc[],int n,int burst_time[],int wait_time[],int arrival[])
{
wait_time[0]=0; int temp;
for(int i=1;i<=n;i++)
{
    temp=wait_time[i-1]+arrival[i-1];
wait_time[i]=(burst_time[i-1]+temp)-arrival[i];
printf("wait time for %d is %d \n",i,wait_time[i-1]);

}
```

```c
for(int i=0;i<n;i++)

{

tat[i]=comp-arrival[i];

total_tat+=tat[i];

comp=comp+burst_time[i+1];

}

for(int j=0;j<n;j++)

printf("TAT for %d is %d \n",j+1 ,tat[j]);

}
```

Output:

```
Enter the size of n:4

Enter the processor number:1

Enter the burst time and arrival time :3 0

Enter the processor number:2

Enter the burst time and arrival time :6 1

Enter the processor number:3

Enter the burst time and arrival time :4 4

Enter the processor number:4

Enter the burst time and arrival time :2 6
wait time for 1 is 0
wait time for 2 is 2
wait time for 3 is 5
wait time for 4 is 7
TAT for 1 is 3
TAT for 2 is 8
TAT for 3 is 9
TAT for 4 is 9

 Average wait time:3.500000
 Average TAT:7.250000
Process returned 51 (0x33)   execution time : 20.313 s
Press any key to continue.
```