Program 2

Question -> Write a program to implement the First Come First Serve scheduling algorithm and find the average turnaround time, waiting time, completion time and response time for overall process. Also Print Gantt chart for it.

Garv nanwani

19BCS049

Code ->

```c
#include<stdio.h>

int main(){

    int bt[10]={0}, at[10]={0}, tat[10]={0}, wt[10]={0}, ct[10]={0}, rt[10]={0};
    int n,sum=0;
    float totalTAT=0,totalWT=0;
    printf("Enter number of processes ");
    scanf("%d",&n);
    printf("Enter arrival time and burst time for each process\n\n");
    for(int i=0;i<n;i++) {
        printf("Arrival time of process[%d] ",i+1);
        scanf("%d",&at[i]);
        printf("Burst time of process[%d] ",i+1);
        scanf("%d",&bt[i]);
        printf("\n");
    }

    for(int j=0; j<n; j++) {
        sum+=bt[j];
        ct[j]+=sum;
    }

    for(int k=0; k<n; k++) {
        tat[k]=ct[k]-at[k];
        totalTAT+=tat[k];
    }

    for(int k=0; k<n; k++) {
        wt[k]=tat[k]-bt[k];
        totalWT+=wt[k];
    }
    rt[0] = 0;
    int cur = bt[0];
    for(int k=1; k<n; k++) {
        rt[k] = cur - at[k];
```

```
        cur += bt[k];
    }

    printf("Solution: \n\n");
    printf("P#\t AT\t BT\t CT\t TAT\t WT\t RT\t\n\n");

    for(int i=0;i<n;i++) {
        printf("P%d\t %d\t %d\t %d\t %d\t %d\t
%d\n",i+1,at[i],bt[i],ct[i],tat[i],wt[i],rt[i]);
    }

    printf("\n\nAverage Turnaround Time = %f\n",totalTAT/n);
    printf("Average WT = %f\n\n",totalWT/n);
    return 0;
}
```

Output ->

```
Enter number of processes 4
Enter arrival time and burst time for each process

Arrival time of process[1] 0
Burst time of process[1] 8

Arrival time of process[2] 5
Burst time of process[2] 7

Arrival time of process[3] 4
Burst time of process[3] 9

Arrival time of process[4] 7
Burst time of process[4] 5

Solution:

P#       AT      BT      CT      TAT     WT      RT

P1       0       8       8       8       0       0
P2       5       7       15      10      3       3
P3       4       9       24      20      11      11
P4       7       5       29      22      17      17


Average Turnaround Time = 15.000000
Average WT = 7.750000
```