**ASSIGNMENT-4**

**SJF**

**#include<stdio.h>**

**struct process**

**{**

**int WT,AT,BT,TAT;**

**};**

**struct process a[10];**

**int main()**

**{**

**int n,temp[10];**

**int count=0,t=0,short\_P;**

**float total\_WT=0, total\_TAT=0,Avg\_WT,Avg\_TAT;**

**printf("Enter the number of the process\n");**

**scanf("%d",&n);**

**printf("Enter the arrival time and burst time of the process\n");**

**printf("AT WT\n");**

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

**{**

**scanf("%d%d",&a[i].AT,&a[i].BT);**

**// copying the burst time in**

**// a temp array for the further use**

**// in calculation of WT**

**temp[i]=a[i].BT;**

**}**

**// we initialize the burst time**

**// of a process with the maximum**

**a[9].BT=10000;**

**// loop will be execute until all the process**

**// complete so we use count!= number of**

**// the process**

**for(t=0;count!=n;t++)**

**{**

**// for finding min burst**

**// it is useful**

**short\_P=9;**

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

**{**

**if(a[i].BT<a[short\_P].BT && (a[i].AT<=t && a[i].BT>0))**

**{**

**short\_P=i;**

**}**

**}**

**a[short\_P].BT=a[short\_P].BT-1;**

**// if any process is completed**

**if(a[short\_P].BT==0)**

**{**

**// one process complete**

**count++;**

**a[short\_P].WT=t+1-a[short\_P].AT-temp[short\_P];**

**a[short\_P].TAT=t+1-a[short\_P].AT;**

**// total calculation**

**total\_WT=total\_WT+a[short\_P].WT;**

**total\_TAT=total\_TAT+a[short\_P].TAT;**

**}**

**}**

**Avg\_WT=total\_WT/n;**

**Avg\_TAT=total\_TAT/n;**

**// printing of the answer**

**printf("Id WT TAT\n");**

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

**{**

**printf("%d\t%d\t%d\n",i+1,a[i].WT,a[i].TAT);**

**}**

**printf("Avg waiting time of the process is %f\n",Avg\_WT);**

**printf("Avg turn around time of the process %f\n",Avg\_TAT);**

**}**