**CPU SCHEDULING-FCFS**

SANJANA S NAIR

CSE C

33

#include<stdio.h>

#include<string.h>

struct process

{

Int at,bt,ct,tt,wt;

char name[50];

}p[20],temp;

int main()

{

int n,k=0,g\_time=0,time\_taken=0;

float sum\_tt=0.0,sum\_wt=0.0;

printf("\n\tFCFS\n");

printf("\nEnter the number of processes : ");

scanf("%d", &n);

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

printf("\nEnter the name of the process %d: ", (i+1));

\_\_fpurge(stdin);

fgets(p[i].name, 20, stdin);

printf(" Enter the arrival time of the process : ");

scanf("%d", &p[i].at);

printf(" Enter the burst time of the process : ");

scanf("%d", &p[i].bt);

p[i].name[strcspn(p[i].name, "\n")] = 0;

}

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

{

for(int j=i+1;j<n;j++)

{

if(p[i].at>p[j].at){

temp = p[i];

p[i] = p[j];

p[j] = temp;

}

}

}

int i = 0,j = 0;

printf("\nPROCESS TABLE\n");

printf("Process Name\t| Process AT\t| Process BT\t| Process CT\t| Process TT\t| Process WT\n”

while(i<n)

{

if(time\_taken >= p[i].at)

{

time\_taken += p[i].bt;

p[i].ct = time\_taken;

p[i].tt = p[i].ct - p[i].at;

p[i].wt = p[i].bt - p[i].tt;

sum\_tt += p[i].tt;

sum\_wt += p[i].wt;

printf("\n\t %s\t \t %d\t \t %d\t \t %d\t \t %d\t \t %d",p[i].name, p[i].at, p[i].bt, p[i].ct,

p[i].tt, p[i].wt);

i++;

}

Else

{

time\_taken = p[i].at;

}

}

printf("updated process table\n");

printf("pid\tat\tbt\tct\ttt\twt\n");

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

{

printf("%s\t%d\t%d\t%d\t%d\t%d\n",p[i].name,p[i].at,p[i].bt,p[i].ct,p[i].tt,p[i].wt);

}

while(k<n)

{

if(gtime>=p[k].at)

{

printf("| %s\t",p[k].name);

gtime=gtime+p[k].bt;

k++;

}

else

{

printf("| idle\t");

gtime = p[k].at;

}

}

printf("|\n|0\t|");

k=0,gtime=0;

while(k<n)

{

if(gtime>=p[k].at)

{

printf("%d\t",p[k].ct);

gtime=gtime+p[k].bt;

k++;

}

else

{

gtime=p[k].at;

printf("%d\t",gtime);

}

}

**}**

**SAMPLE OUTPUT**

Enter the no of process: 3

Enter the process name: p1

Enter the arrival time: 0

Enter the burst time: 2

Enter the process name: p2

Enter the arrival time: 2

Enter the burst time: 3

Enter the process name: p3

Enter the arrival time: 3

Enter the burst time: 4

PR AT BT CT TAT WT

p1 0 2 2 2 0

p2 2 3 5 3 0

p3 3 4 9 6 2

Gantt chart

| p1 | p2 | p3 |

0 2 5 9

Average turnaround time=3.67

Average waiting time=0.67