**PROGRAM**

#include<stdio.h>

#include<string.h>

struct p

{

char no[10];

int at;

int pr;

int bt;

int ct;

int wt;

int rt;

int tt;

}ob[10],a[10],q[10];

void main()

{

int n,i,j,x,small,s=0,sum=0,sum1=0,k,m,t,c=0,p;

struct p temp;

float av,b;

printf("Enter The No.Of Processes\n");

scanf("%d",&n);

printf("Enter Process no,Priority,Arrival Time,Burst Time\n");

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

{

scanf("%s%d%d%d",ob[i].no,&ob[i].pr,&ob[i].at,&ob[i].bt);

ob[i].wt=0;

ob[i].rt=ob[i].bt;

s=s+ob[i].bt;

}

small=ob[0].at;

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

{

if(ob[i].at<small)

{

small=ob[i].at;

}

}

for(i=small;i<=s;)

{

k=0;

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

{

if(ob[m].wt>=10 && ob[m].rt>0)

{

ob[m].pr=ob[m].pr-1;

}

}

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

{

if(ob[j].at<=i && ob[j].rt>0)

{

a[k]=ob[j];

k++;

}

}

p=k;

for(j=0;j<p;j++)

{

for(t=j+1;t<p;t++)

{

if(a[j].pr>a[t].pr)

{

temp=a[j];

a[j]=a[t];

a[t]=temp;

}

else if(a[j].pr==a[t].pr)

{

if(a[j].at>a[t].at)

{

temp=a[j];

a[j]=a[t];

a[t]=temp;

}

}

}

}

i=i+a[0].bt;

a[0].rt=0;

q[c]=a[0];

c++;

for(j=0;j<p;j++)

{

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

{

if(strcmp(a[j].no,ob[t].no)==0)

{

ob[t].wt=a[j].wt;

ob[t].rt=a[j].rt;

}

}

}

}

x=small;

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

{

q[j].ct=x;

q[j].wt=x-q[j].at;

x=x+q[j].bt;

q[j].tt=q[j].bt+q[j].wt;

sum=sum+q[j].wt;

sum1=sum1+q[j].tt;

}

printf("\n\nGANT CHART : ");

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

{

printf("(%d)%s---->",q[i].ct,q[i].no);

}

printf("(%d)",s);

printf("\n\n");

printf("PROCESS ");

printf("ATIME ");

printf("PRIORITY ");

printf("BTIME ");

printf("CTIME ");

printf("WTIME ");

printf("TTIME ");

for(i=0;i<7;i++)

printf("---------");

printf("\n");

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

{

printf("%s ",q[i].no);

printf("%d ",q[i].at);

printf("%d ",q[i].pr);

printf("%d ",q[i].bt);

printf("%d ",q[i].ct+q[i].bt);

printf("%d ",q[i].wt);

printf("%d ",q[i].tt);

printf("\n");

}

av=(float)sum/n;

b=(float)sum1/n;

printf("\nAverage Waiting Time : %f\n",av);

printf("Average Turn Around Time : %f\n",b);

}

**OUTPUT**

**mat@mat-18:~/Desktop/VANISHA46$ gcc prioritynon.c**

**mat@mat-18:~/Desktop/VANISHA46$ ./a.out**

Enter The No.Of Processes

4

Enter Process no,Priority,Arrival Time,Burst Time

p1 2 0 5

p2 1 3 3

p3 3 4 2

p4 1 2 6

GANT CHART : (0)p1---->(5)p4---->(11)p2---->(14)p3---->(16)

PROCESS ATIME PRIORITY BTIME CTIME WTIME TTIME --------------- ------------ --------------- ----------- ------------ ----------- ----------

p1 0 2 5 5 0 5

p4 2 1 6 11 3 9

p2 3 1 3 14 8 11

p3 4 3 2 16 10 12

Average Waiting Time : 5.250000

Average Turn Around Time : 9.250000