Aim : To write C program to implement Priority based CPU scheduling algorithm

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sushmit@SushmitEnvy:~/SIT$ cat priority.c
#include <stdio.h>
#define max 5
int main()
{
    int i,j,n,t,p[max],bt[max],pr[max],wt[max],tat[max],Total_wt=0,Total_tat=0;
float awt=0,atat=0;
printf("Enter the number of processes\n");
scanf("%d",&n);

for(i=0;i<n;i++)
{
 printf("Enter the process number\n");
 scanf("%d",&p[i]);
printf("Enter the burst time of the process\n");
 scanf("%d",&bt[i]);
printf("Enter the priority of the process\n");
 scanf("%d",&pr[i]);
}

for(i=0;i<n;i++)
{
 for(j=0;j<n-i-1;j++)
  {
   if(pr[j]>pr[j+1])
    {

t=pr[j];
   pr[j]=pr[j+1];
   pr[j+1]=t;

t=bt[j];
   bt[j]=bt[j+1];
   bt[j+1]=t;

   t=p[j];
   p[j]=p[j+1];
```

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 for(j=0;j<n-i-1;j++)
  {
   if(pr[j]>pr[j+1])
    {

t=pr[j];
   pr[j]=pr[j+1];
   pr[j+1]=t;

t=bt[j];
   bt[j]=bt[j+1];
   bt[j+1]=t;

   t=p[j];
   p[j]=p[j+1];
   p[j+1]=t;
   } //if
  } //for
} //for
printf("Processid \t Burst Time\t Priority\tWaiting Time\t Turn Around Time\n");
for(i=0;i<n;i++)
{
 wt[i]=0;
 tat[i]=0;
 for(j=0;j<i;j++)
  wt[i]=wt[i]+bt[j];
 tat[i]=wt[i]+bt[i];
 Total_wt=Total_wt+wt[i];
 Total_tat=Total_tat+tat[i];
 printf("%d\t\t %d\t\t%d\t\t %d\t\t %d\n",p[i],bt[i],pr[i],wt[i],tat[i]);
}
awt=(float)Total_wt/n;
atat=(float)Total_tat/n;
printf("The average waiting time =  %f\n",awt);
printf("The average turn aroud time = %f\n",atat);
}
sushmit@SushmitEnvy:~/SIT$
```

```
sushmit@SushmitEnvy:~/SIT$ ./priority.out
Enter the number of processes
3
Enter the process number
1
Enter the burst time of the process
12
Enter the priority of the process
4
Enter the process number
2
Enter the burst time of the process
11
Enter the priority of the process
14
Enter the process number
3
Enter the burst time of the process
19
Enter the priority of the process
3
Processid        Burst Time      Priority      Waiting Time     Turn Around Time
3                19              3             0                19
1                12              4             19               31
2                11              14            31               42
The average waiting time =  16.666666
The average turn aroud time = 30.666666
sushmit@SushmitEnvy:~/SIT$
```