

Aim:

Aim: Simulation of Priority scheduling algorithm.

Description:

Priority scheduling is one of the most common scheduling algorithms in batch systems. Each process is assigned a priority. Process with the highest priority is to be executed first and so on. Processes with the same priority are executed on first come first served basis. Priority can be decided based on memory requirements, time requirements or any other resource requirement.

Source Code:PriorityAlgo.c

```
#include<stdio.h>
int main()
{
    int i,j,n,t,turn[20],burst[20],p[20],wt[20],c[20];
    float aw,at,tw=0,tt=0;
    printf("Enter the value of n: ");
    scanf("%d",&n);
    printf("Enter the process no, burst and arrivaltime:\n");
    for(i=0;i<n;i++)
    {
        scanf("%d",&c[i]);
        scanf("%d",&burst[i]);
        scanf("%d",&p[i]);
    }
    for(i=0;i<n;i++)
        for(j=i+1;j<n;j++)
        {
            if(p[i]>p[j])
            {
                t=p[i];
                p[i]=p[j];
                p[j]=t;
                t=burst[i];
                burst[i]=burst[j];
                burst[j]=t;
                t=c[i];
                c[i]=c[j];
                c[j]=t;
            }
        }
    for(i=0;i<n;i++)
    {
        if(i==0)
        {
            wt[i]=0;
            turn[i]=burst[i];
        }
        else
        {
            turn[i]=turn[i-1]+burst[i];
        }
    }
}
```

```

        wt[i]=turn[i]-burst[i];
        tw=tw+wt[i];
        tt=tt+turn[i];
    }
}
aw=tw/n;
at=tt/n;
printf("pno\tbtime\tatime\twtime\ttttime");
for(i=0;i<n;i++)
    printf("\n%d\t%d\t%d\t%d\t%d",c[i],burst[i],p[i],wt[i],turn[i]);
printf("\nThe average waiting time is:%f",aw);
printf("\nThe average turn around time is:%f",at);
}

```

Execution Results - All test cases have succeeded!

Test Case - 1				
User Output				
Enter the value of n: 3				
Enter the process no, burst and arrivaltime: 1 15 2				
2 5 1				
3 10 3				
pno	btime	atime	wtime	tttime
2	5	1	0	5
1	15	2	5	20
3	10	3	20	30
The average waiting time is:8.333333				
The average turn around time is:16.666666				

Test Case - 2				
User Output				
Enter the value of n: 5				
Enter the process no, burst and arrivaltime: 1 5 4				
2 6 3				
3 1 4				
4 2 6				
5 3 2				
pno	btime	atime	wtime	tttime
5	3	2	0	3
2	6	3	3	9
3	1	4	9	10
1	5	4	10	15
4	2	6	15	17
The average waiting time is:7.400000				
The average turn around time is:10.200000				