

EX NO: 9

Date:

Write a program for implementing the SJF Scheduling algorithm

AIM: To write a program for implementing SJF scheduling algorithm.

ALGORITHM:

1. Start the process.
2. Declare the array size.
3. Get the number of elements to be inserted.
4. Select the process which have shortest burst will execute first.
5. If two process have same burst length then FCFS scheduling algorithm used.
6. Make the average waiting the length of next process.
7. Start with the first process from its selection as above and let other process to be in queue.
8. Calculate the total number of burst time.
9. Display the values.
10. Stop the process.

PROGRAM:

```
#include<stdio.h>

int main()
{
    intbt[20],p[20],wt[20],tat[20],i,j,n,total=0,pos,temp;
    floatavg_wt,avg_tat;

    printf("Enter number of process:");

    scanf("%d",&n);

    printf("\nEnter Burst Time:\n");
```

Operating System

```
for(i=0;i<n;i++)  
{  
printf("p%d:",i+1);  
scanf("%d",&bt[i]);  
p[i]=i+1;  
}
```

//sorting of burst times

```
for(i=0;i<n;i++)  
{  
pos=i;  
for(j=i+1;j<n;j++)  
{  
if(bt[j]<bt[pos])  
pos=j;  
}
```

```
temp=bt[i];  
bt[i]=bt[pos];  
bt[pos]=temp;
```

```
temp=p[i];  
p[i]=p[pos];  
p[pos]=temp;
```

```
}
```

```
wt[0]=0;
```

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

```
{
```

```
wt[i]=0;
```

```
for(j=0;j<i;j++)
```

```
wt[i]+=bt[j];
```

```
total+=wt[i];
```

```
}
```

```
avg_wt=(float)total/n;
```

```
total=0;
```

```
printf("\nProcess\tBurst Time\tWaiting Time\tTurnaround Time");
```

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

```
{
```

```
tat[i]=bt[i]+wt[i];
```

```
total+=tat[i];
```

```
printf("\np%d\t\t %d\t\t %d\t\t %d",p[i],bt[i],wt[i],tat[i]);
```

```
}
```

```
avg_tat=(float)total/n;
printf("\n\nAverage Waiting Time=%f",avg_wt);
printf("\n\nAverage Turnaround Time=%f\n",avg_tat);
}
```

OUTPUT:

Enter number of process:3

Enter Burst Time:

p1:5

p2:3

p3:4

Processt	Burst Time	Waiting Time	Turnaround Time
p2	3	0	3
p3	4	3	7
p1	5	7	12

Average Waiting Time=3.333333

Average Turnaround Time=7.333333

RESULT:

Thus the program for implementing SJF scheduling algorithm was written and successfully executed.