Lab report no : 08

Name of the lab report : Implementation of SJF Scheduling Algorithm.

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Objective: SJF algorithm Definition & executable code in c are followed.

Q.1 What is SjF Scheduling algorithm?

Ans: Shortest job first is a scheduling algorithm in which the process with the smallest execution time is selected for execution next. Shortest job first can be either preemptive or non-preemptive. Owing to its simple nature, shortest job first is considered optimal. It also reduces the average waiting time for other processes awaiting execution.

Q.2 How to implemented in C?

Ans:

The code written in c are given below:

```
#include<stdio.h> void

main()

{    int

bt[20],p[20],wt[20],tat[20],i,j,n,total=0,pos,temp;

float avg_wt,avg_tat;    printf("Enter number of

process:");    scanf("%d",&n);    printf("\nEnter Burst

Time:\n");    for(i=0;i<n;i++)

    {

        printf("p%d:",i+1);

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

p[i]=i+1;

    }

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

```c
    {       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;
```

```c
    printf("\nProcess\t    Burst 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\t%d",p[i],bt[i],wt[i],tat[i]);
  }
  avg_tat=(float)total/n;
  printf("\n\nAverage Waiting Time=%.2f",avg_wt);
printf("\nAverage Turnaround Time=%.2f\n",avg_tat);
}
```
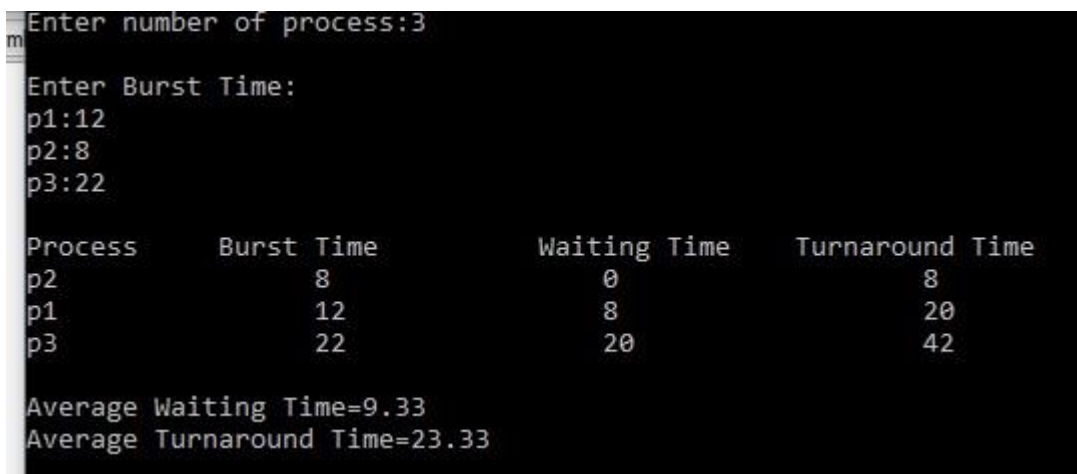
Output: