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Lab report no. : 08

Lab report name : Lab report on implementation of SJF scheduling algorithm .

Aim and objectives: To learn about Shortest job first also know as SJF algorithm , implement it with a c program, to learn how to use this algorithm.

Explanation:

i) SJF Scheduling algorithm : Shortest Job First (SJF) is an algorithm in which the process having the smallest execution time is chosen for the next execution. SJF scheduling algorithm, schedules the processes according to their burst time. SJF scheduling process with the lowest burst time, among the list of available processes in the ready queue, is going to be scheduled next. It is not implementable because the exact Burst time for a process can't be known in advance.

ii) **Implementation of SJF in C Program:**

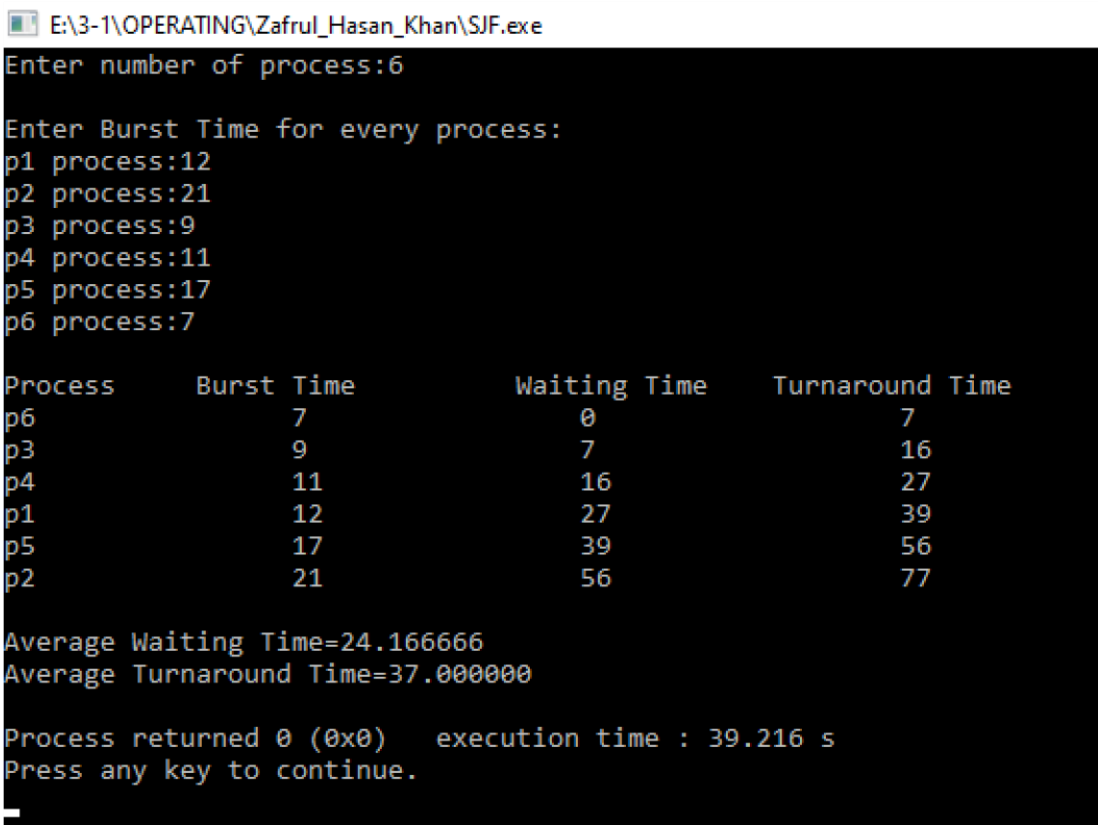
Code:

```
#include<stdio.h>

int 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 for every process:\n");
for(i=0;i<n;i++)
   {
      printf("p%d process7
            :",i+1);
      scanf("%d",&bt[i]);
p[i]=i+1;
   }

   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\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=%f",avg_wt);    printf("\nAverage Turnaround
Time=%f\n",avg_tat);    return 0;
}
```

Output:



Conclusion: After execution of simulation codes of SJF, I come to the conclusion that SJF algorithm is more competitive. I have also show ,SJF algorithm is a very long process to be not executed at the time required. However, this algorithm will be helpful for future work.