S.No: 1	Exp. Name: ***Implement CPU Scheduling Algorithms***	Date:

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Aim:

Write a program to implement the Multi Level Queue Scheduling.

Source Code:

os5.c

```
#include<stdio.h>
#define max 50
void main(){
   int p[max],bTime[max],su[max],wTime[max],taTime[max],i,k,n,temp;
   float avg_wt,avg_tat;
   printf("Enter the number of processes:");
   scanf("%d",&n);
   for(i=0; i<n; i++){
      p[i] = i;
      printf("Enter the Burst Time of Process %d:",i);
      scanf("%d",&bTime[i]);
      printf("System/User Process (0/1) ?");
      scanf("%d",&su[i]);
   }
   for(i=0; i<n; i++){
      for(k=i+1; k<n; k++){
         if(su[i] > su[k]){
            temp = p[i];
            p[i] = p[k];
            p[k] = temp;
            temp = bTime[i];
            bTime[i] = bTime[k];
            bTime[k] = temp;
            temp = su[i];
            su[i] = su[k];
            su[k] = temp;
         }
      }
   }
   avg_wt = wTime[0] = 0;
   avg_tat = taTime[0] = bTime[0];
   for(i=1; i<n; i++){
      wTime[i] = wTime[i-1] + bTime[i-1];
      taTime[i] = taTime[i-1] + bTime[i];
      avg_wt = avg_wt + wTime[i];
      avg_tat = avg_tat + taTime[i];
   }
   printf("PROCESS\t\t SYSTEM/USER PROCESS \tBURST TIME\tWAITING TIME\tTURNAROUND TIM
E");
   for(i=0; i<n; i++){
      printf("\n%d \t\t %d \t\t %d \t\t %d \t\t %d ",p[i],su[i],bTime[i],wTime[i],taTim
e[i]);
   }
   printf("\nAverage Waiting Time is --- %f",avg_wt/n);
   printf("\nAverage Turnaround Time is --- %f",avg_tat/n);
}
```

Execution Results - All test cases have succeeded!

Test Case - 1				
User Output				
Enter the number of processes: 2				
Enter the Burst Time of Process 0: 45				
System/User Process (0/1) ? 0				
Enter the Burst Time of Process 1: 67				
System/User Process (0/1) ? 1				
PROCESS	SYSTEM/USER PROCESS	BURST TIME	WAITING TIME	TURNAROUND TIME
0	0	45	0	45
1	1	67	45	112
Average Waiting Time is --- 22.500000				
Average Turnaround Time is --- 78.500000				

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