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Lab report no. : 09

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

Aim and objectives: To learn about Priority scheduling algorithm , implement it with a c program, to learn how to use this algorithm.

Explanation:

i) **Priority scheduling algorithm:** Priority Scheduling is a method of scheduling processes that is based on priority. In this algorithm, the scheduler selects the tasks to work as per the priority. Priority scheduling is a non-preemptive algorithm and one of the most common scheduling algorithms in batch systems. This algorithm provides a good mechanism where the relative important of each process may be precisely defined.

ii) **Implementation of Priority scheduling algorithm in C Program:**

Code:

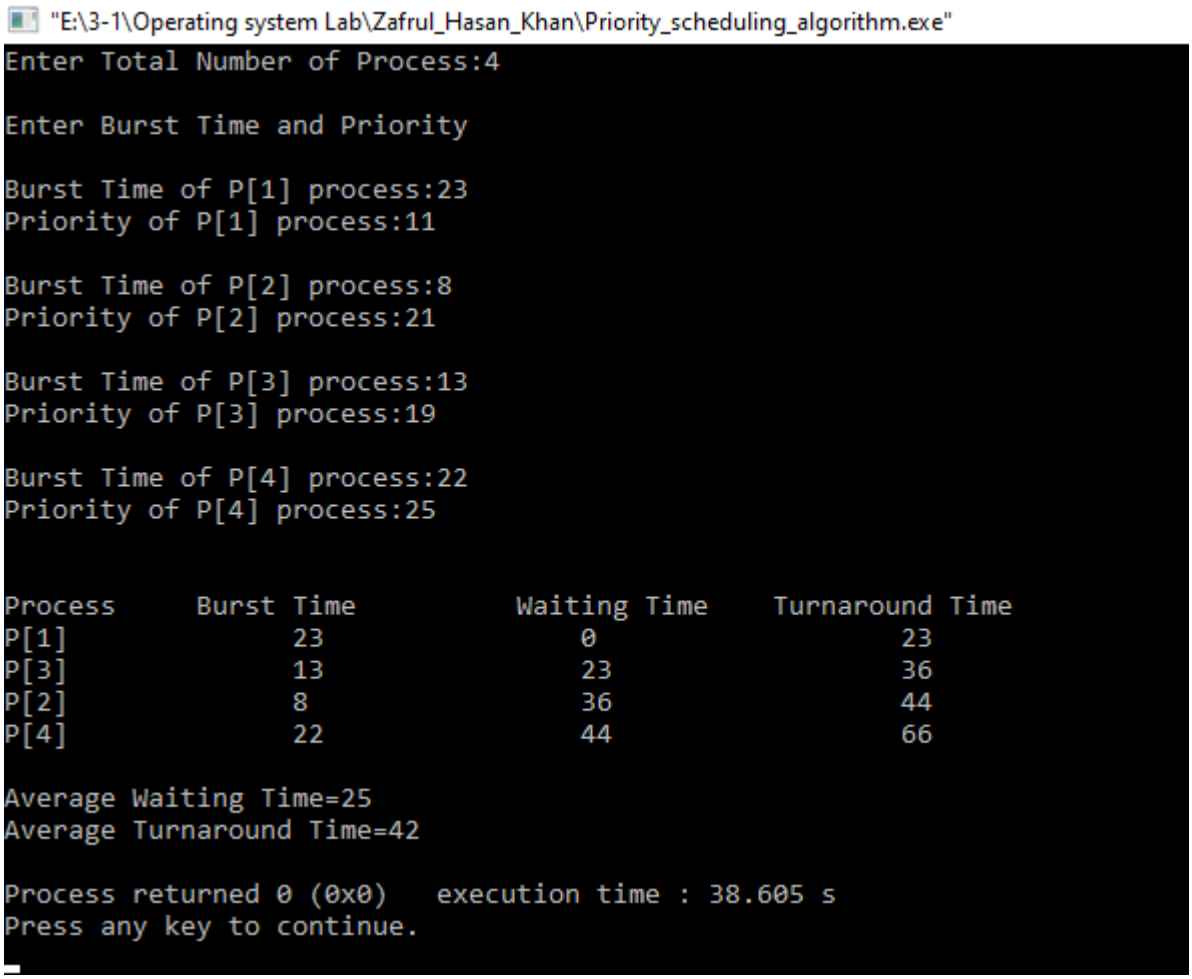
```
#include<stdio.h>

int main()

{

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

   printf("Enter Total Number of Process:");

   scanf("%d",&n);
```

```
printf("\nEnter Burst Time and Priority\n\n");
for(i=0;i<n;i++)
{

   printf("Burst Time of P[%d] process:",i+1);
   scanf("%d",&bt[i]);
   printf("Priority of P[%d] process:",i+1);
   scanf("%d",&pr[i]);
   p[i]=i+1;
   printf("\n");
}



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

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

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

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

wt[0]=0;

//calculate waiting time
for(i=1;i<n;i++)
{
    wt[i]=0;
    for(j=0;j<i;j++)
        wt[i]+=bt[j];
```

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

  avg_wt=total/n;      //average waiting time
  total=0;

  printf("\nProcess\t    Burst Time    \tWaiting Time\tTurnaround Time");
  for(i=0;i<n;i++)
  {
    tat[i]=bt[i]+wt[i];     //calculate turnaround time
    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=total/n;     //average turnaround time
  printf("\n\nAverage Waiting Time=%d",avg_wt);
  printf("\nAverage Turnaround Time=%d\n",avg_tat);

   return 0;
}
```

Output:



Conclusion: From this lab , I have shown this algorithm easy to use as scheduling method. This algorithm executes the processes according to the priority process with higher priority is executed first. At the end , this algorithm will be helpful for using as scheduling method .