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UNIVERSITY OF INFORMATION
TECHNOLOGY AND SCIENCES

NAME :- KHALED SAIFULLAH

ID :- 1814351102

BATCH :- 43

DEPARTMENT :- CSE

COURSE TITLE :-OPERATING SYSTEM

COURSE TEACHER :-CSE-321

COURSE TEACHER :- MALIHA HOSSIAN

Lab Report No :- 03

Experiment Name :- c/c++ Programming to implement Priority Scheduling and as well as use that programming language to draw grand.

Theory

Priority scheduling is a non-preemptive algorithm and one of the most common scheduling algorithms in batch systems. Each process is assigned a priority. Process with highest priority is to be executed first and so on. Processes with same priority are executed on first come first served basis.

Source Code

```
#include<stdio.h>


int main()
{
   int
bt[25],p[26],wt[25],tat[25],pr[25],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");
   for(i=0;i<n;i++)
   {
      printf("\nP[%d]\n",i+1);
      printf("Burst Time:");
```

```
    scanf("%d",&bt[i]);
    printf("Priority:");
    scanf("%d",&pr[i]);
    p[i]=i+1;          //contains process number
  }

  //sorting burst time, priority and process number in ascending order using selection sort
  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; //waiting time for first process is zero

//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];
```

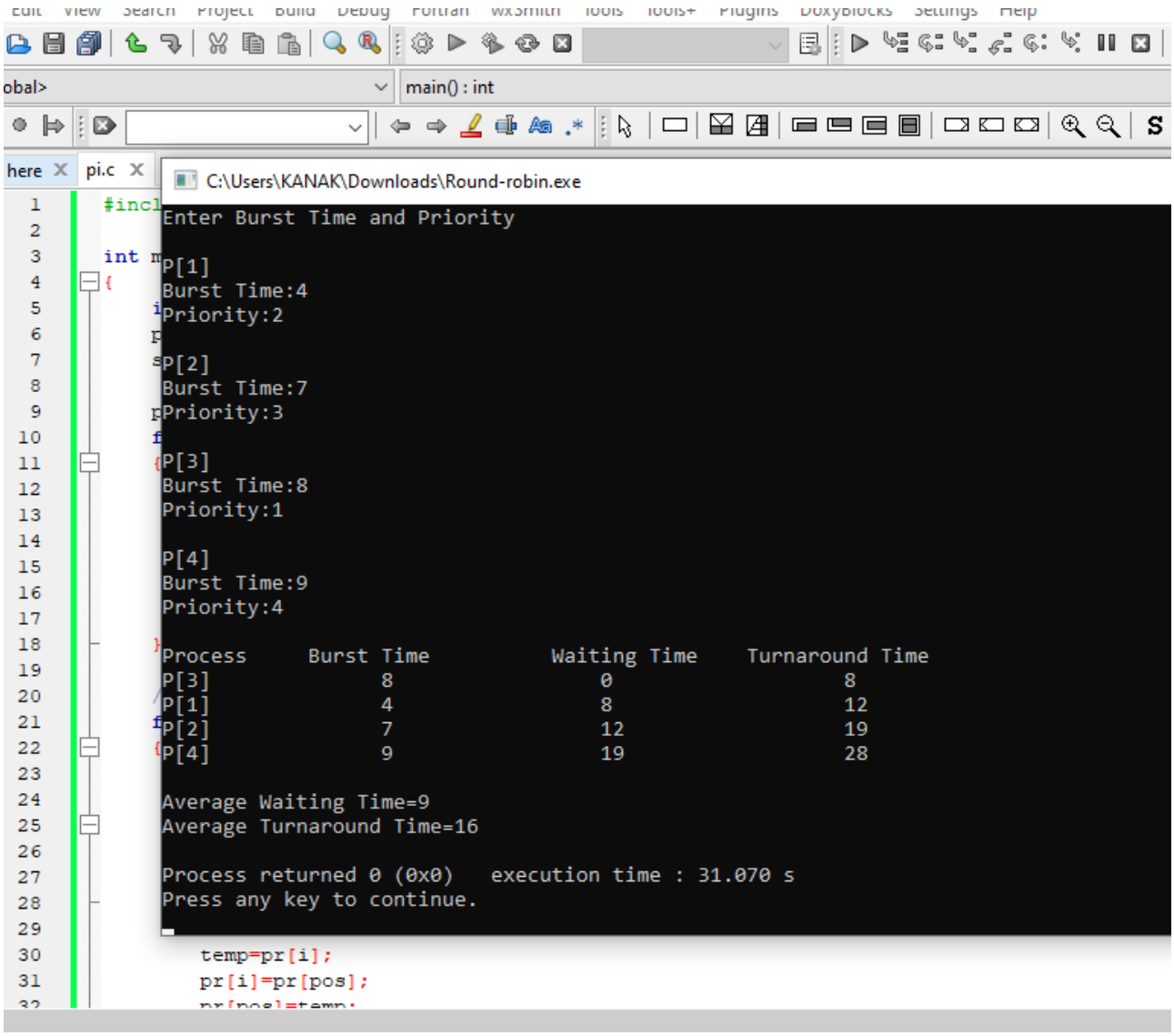
```
    }

    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;
}
```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obal>
main() : int
here
pi.c
C:\Users\KANAK\Downloads\Round-robin.exe
Enter Burst Time and Priority
P[1]
Burst Time:4
Priority:2
P[2]
Burst Time:7
Priority:3
P[3]
Burst Time:8
Priority:1
P[4]
Burst Time:9
Priority:4
Process Burst Time Waiting Time Turnaround Time
P[3] 8 0 8
P[1] 4 8 12
P[2] 7 12 19
P[4] 9 19 28
Average Waiting Time=9
Average Turnaround Time=16
Process returned 0 (0x0) execution time : 31.070 s
Press any key to continue.
temp=pr[i];
pr[i]=pr[pos];