

EXPERIMENT N0-5

A): First Come First Serve (FCFS) scheduling algorithm

CODE:

```
#include<stdio.h>

#include<string.h>

int main()
{
    char p[10][10],t[10];
    int arr[10],burt[10],star[10],completion[10],tat[10],wt[10],i,j,n,temp;
    int totwt=0,tottat=0;
    printf("Enter the number of processes:");
    scanf("%d",&n);
    for(i=0; i<n; i++)
    {
        printf("Enter the ProcessName, Arrival Time& Burst Time:");
        scanf("%s%d%d",&p[i],&arr[i],&burt[i]);
    }
    for(i=0; i<n; i++)
    {
        for(j=0; j<n; j++)
        {
            if(arr[i]<arr[j])
            {
                temp=arr[i];
                arr[i]=arr[j];
                arr[j]=temp;
                temp=burt[i];
```

```

        burt[i]=burt[j];
        burt[j]=temp;
        strcpy(t,p[i]);
        strcpy(p[i],p[j]);
        strcpy(p[j],t);
    }
}
}
for(i=0; i<n; i++)
{
    if(i==0)
        star[i]=arr[i];
    else
        star[i]=completion[i-1];
    wt[i]=star[i]-arr[i];
    completion[i]=star[i]+burt[i];
    tat[i]=completion[i]-arr[i];
}
printf("PName Arrtime Burtime WaitTime Start TAT completion");
for(i=0; i<n; i++)
{

printf("\n%s\t%3d\t%3d\t%3d\t%3d\t%6d\t%6d",p[i],arr[i],burt[i],wt[i],star[i],t
at[i],completion[i]);

    totwt+=wt[i];
    tottat+=tat[i];
}
printf("\nTotal Waiting time:%f", (float)totwt);

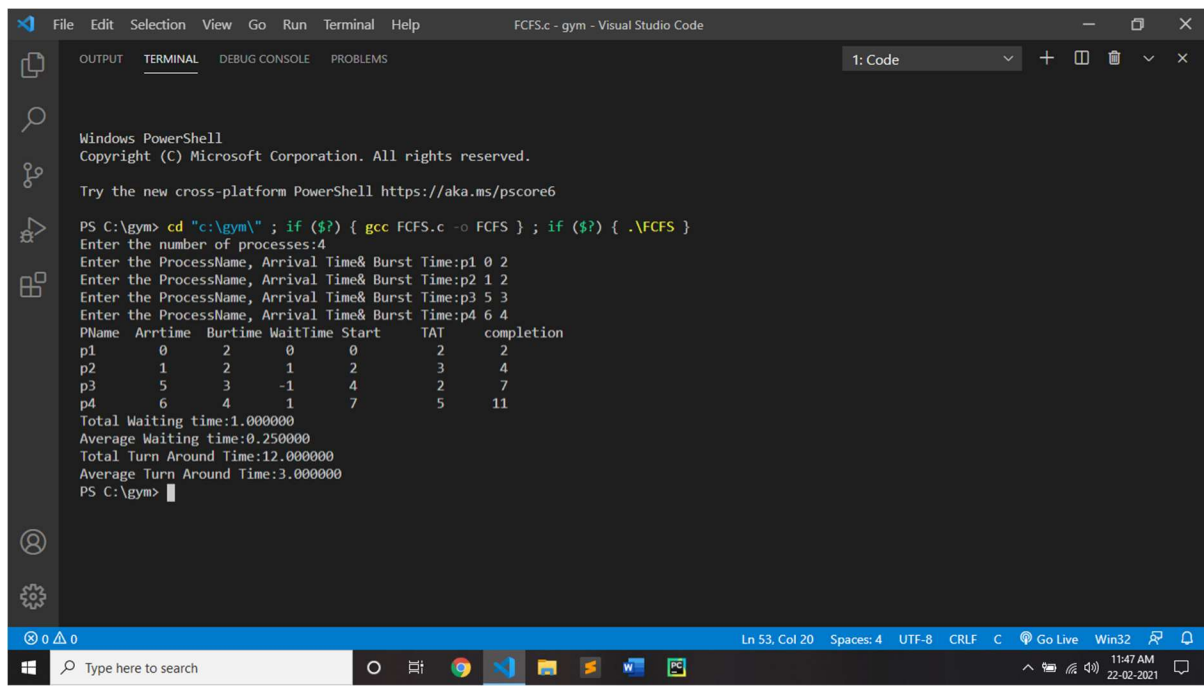
```

```

printf("\nAverage Waiting time:%f", (float)totwt/n);
printf("\nTotal Turn Around Time:%f", (float)tottat);
printf("\nAverage Turn Around Time:%f", (float)tottat/n);
return 0;
}

```

OUTPUT:



```

Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\gym> cd "c:\gym\" ; if ($?) { gcc FCFS.c -o FCFS } ; if ($?) { .\FCFS }
Enter the number of processes:4
Enter the ProcessName, Arrival Time& Burst Time:p1 0 2
Enter the ProcessName, Arrival Time& Burst Time:p2 1 2
Enter the ProcessName, Arrival Time& Burst Time:p3 5 3
Enter the ProcessName, Arrival Time& Burst Time:p4 6 4
PName Arrtime Burtime WaitTime Start TAT completion
p1      0      2      0      0      2      2
p2      1      2      1      2      3      4
p3      5      3     -1      4      2      7
p4      6      4      1      7      5     11
Total Waiting time:1.000000
Average Waiting time:0.250000
Total Turn Around Time:12.000000
Average Turn Around Time:3.000000
PS C:\gym>

```

B): Round robin scheduling algorithm

CODE:

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int i,a , sum=0,count=0, y, quant, wt=0, tat=0, at[10], bt[10], temp[10];
    float avg_wt, avg_tat;
    printf(" Total number of process in the system: ");
    scanf("%d", &a);
    y = a;

    for(i=0; i<a; i++)
    {
        printf("\nEnter the Arrival and Burst time of the Process[%d]\n", i+1);
        printf("Arrival time is:");
        scanf("%d", &at[i]);
        printf("Burst time is:");
        scanf("%d", &bt[i]);
        temp[i] = bt[i];
    }
    printf("Enter the Time Quantum for the process: ");
    scanf("%d", &quant);
    printf("\n Process No \t\t Burst Time \t\tTAT \t\t Waiting Time ");
    for(sum=0, i = 0; y!=0; )
    {
        if(temp[i] <= quant && temp[i] > 0)
```

```

{
    sum = sum + temp[i];
    temp[i] = 0;
    count=1;
}
else if(temp[i] > 0)
{
    temp[i] = temp[i] - quant;
    sum = sum + quant;
}
if(temp[i]==0 && count==1)
{
    y--;
    printf("\nProcess No[%d] \t\t %d\t\t\t %d\t\t\t %d", i+1, bt[i], sum-at[i],
sum-at[i]-bt[i]);
    wt = wt+sum-at[i]-bt[i];
    tat = tat+sum-at[i];
    count =0;
}
if(i==a-1)
{
    i=0;
}
else if(at[i+1]<=sum)
{
    i++;
}
else

```

```

    {
        i=0;
    }
}

avg_wt = wt * 1.0/a;
avg_tat = tat * 1.0/a;

printf("\n\nTotal Waiting Time: %f",avg_wt*a);
printf("\nAverage Waiting Time: %f", avg_wt);
printf("\nTotal Turnaround Time: %f",avg_tat*a);
printf("\nAverage Turnaround Time: %f", avg_tat);

getch();
}

```

OUTPUT:

```

RR.c - online-quiz - Visual Studio Code
1: Code
OUTPUT TERMINAL DEBUG CONSOLE PROBLEMS
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\xampp\htdocs\online-quiz> cd "c:\gym\" ; if ($?) { gcc RR.c -o RR } ; if ($?) { .\RR }
Total number of process in the system: 4

Enter the Arrival and Burst time of the Process[1]
Arrival time is:0
Burst time is:7

Enter the Arrival and Burst time of the Process[2]
Arrival time is:1
Burst time is:4

Enter the Arrival and Burst time of the Process[3]
Arrival time is:2
Burst time is:9

Enter the Arrival and Burst time of the Process[4]
Arrival time is:3
Burst time is:10
Enter the Time Quantum for the process: 6

Process No      Burst Time      TAT      Waiting Time
Process No[2]   4              9        5
Process No[1]   7              23       16
Process No[3]   9              24       15
Process No[4]   10             27       17

Total Waiting Time: 53.000000
Average Waiting Time: 13.250000
Total Turnaround Time: 83.000000
Average Turnaround Time: 20.750000

```