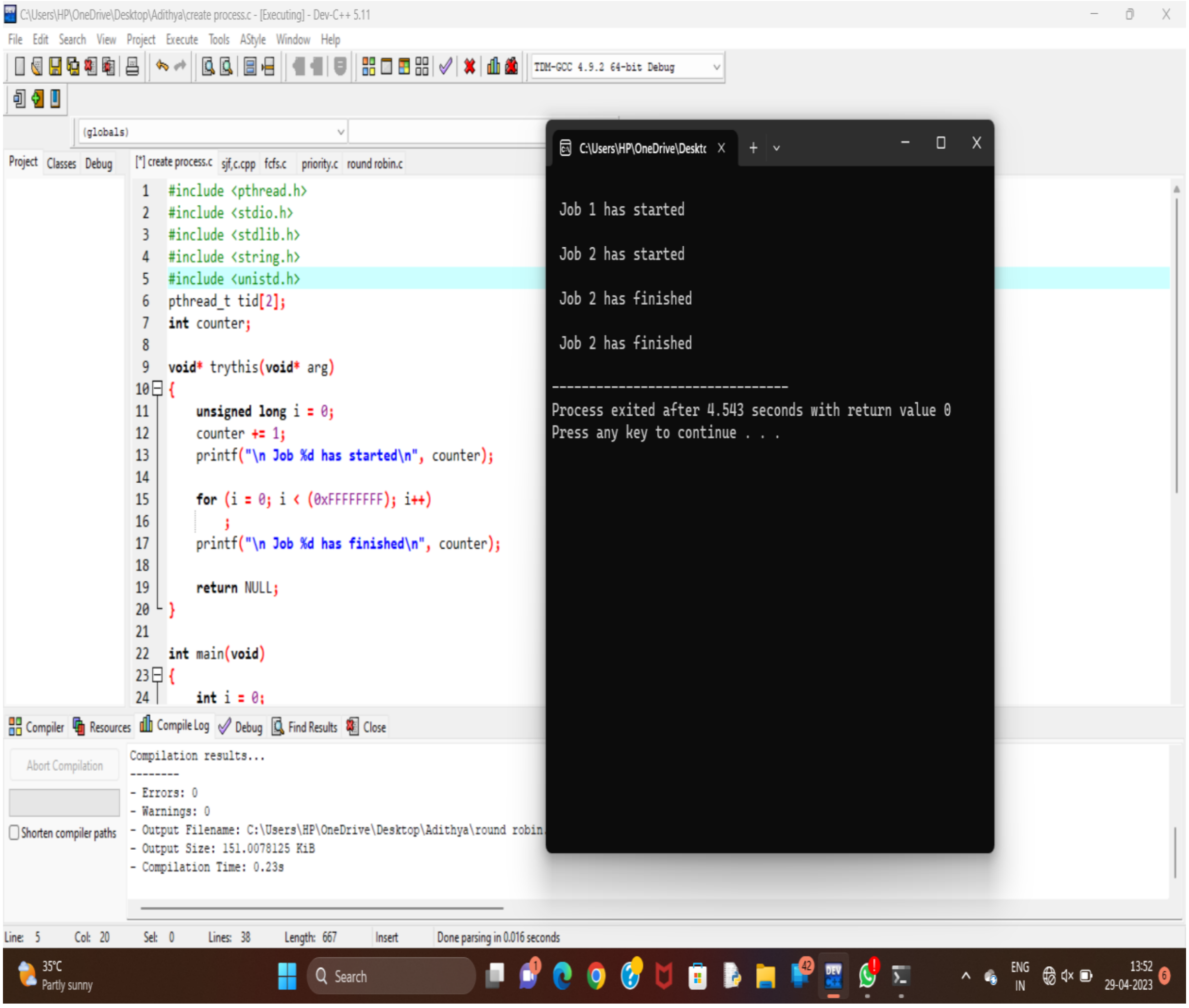
OPERATING SYSTEMS V.ADITHYA

LAB PROGRAMS 192110419

1.PROCESS CREATION

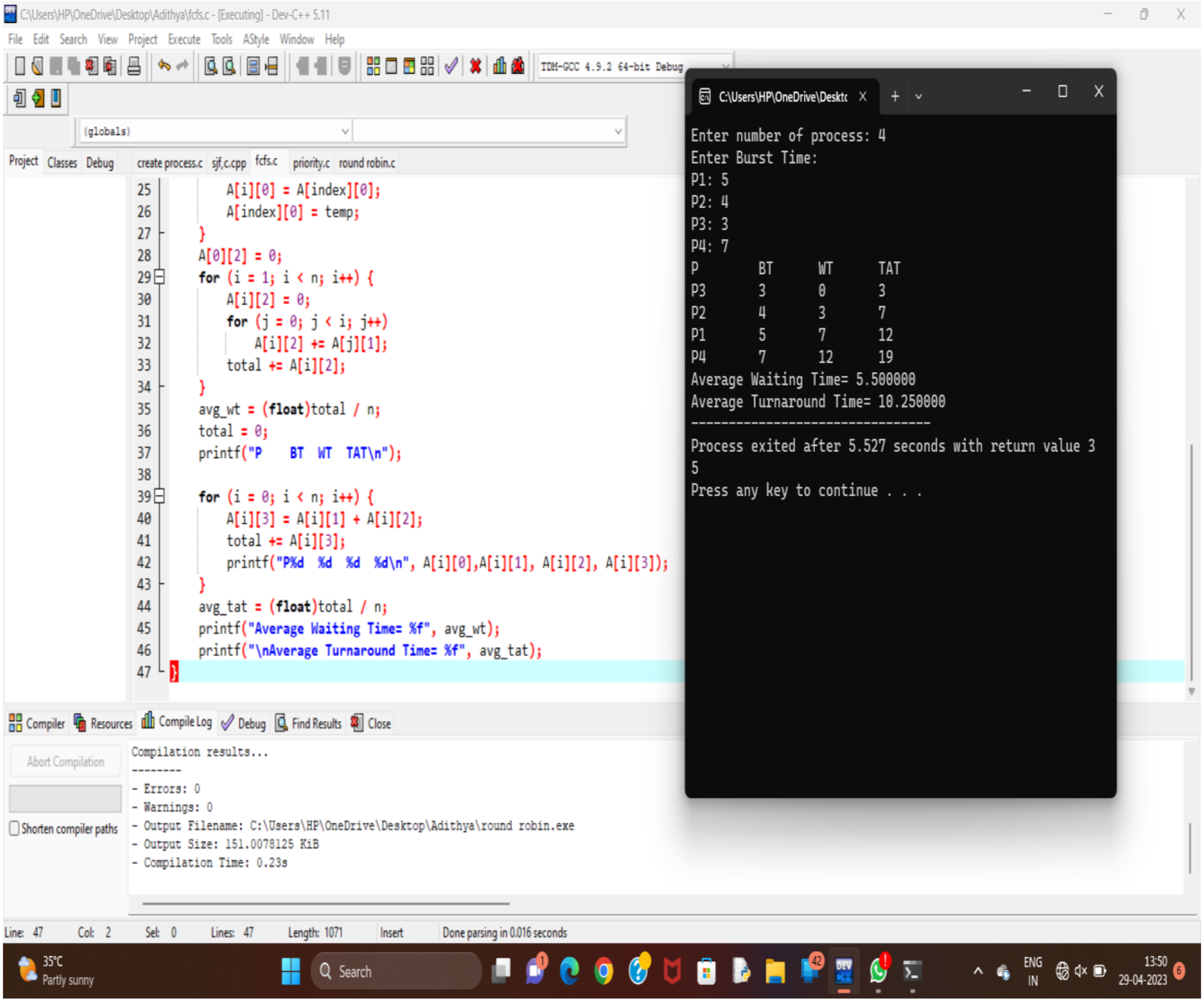

C:\Users\HP\OneDrive\Desktop\Adithya\create process.c - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Debug
(globals)
Project Classes Debug
[*] create process.c sjf,c.cpp fcfs.c priority.c round robin.c
C:\Users\HP\OneDrive\Deskt
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
□ Shorten compiler paths
Line: 5 Col: 20 Sel: 0 Lines: 38 Length: 667 Insert Done parsing in 0.016 seconds
35°C
Partly sunny
Search
ENG
IN
13:52
29-04-2023

```c
#include <pthread.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <unistd.h>
pthread_t tid[2];
int counter;

void* trythis(void* arg)
{
    unsigned long i = 0;
    counter += 1;
    printf("\n Job %d has started\n", counter);

    for (i = 0; i < (0xFFFFFFFF); i++)
        ;
    printf("\n Job %d has finished\n", counter);

    return NULL;
}

int main(void)
{
    int i = 0;
```

```
 Job 1 has started

 Job 2 has started

 Job 2 has finished

 Job 2 has finished

--------------------------------
Process exited after 4.543 seconds with return value 0
Press any key to continue . . .
```

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\HP\OneDrive\Desktop\Adithya\round robin.
- Output Size: 151.0078125 KiB
- Compilation Time: 0.23s
```

2.FCFS SCHEDULING



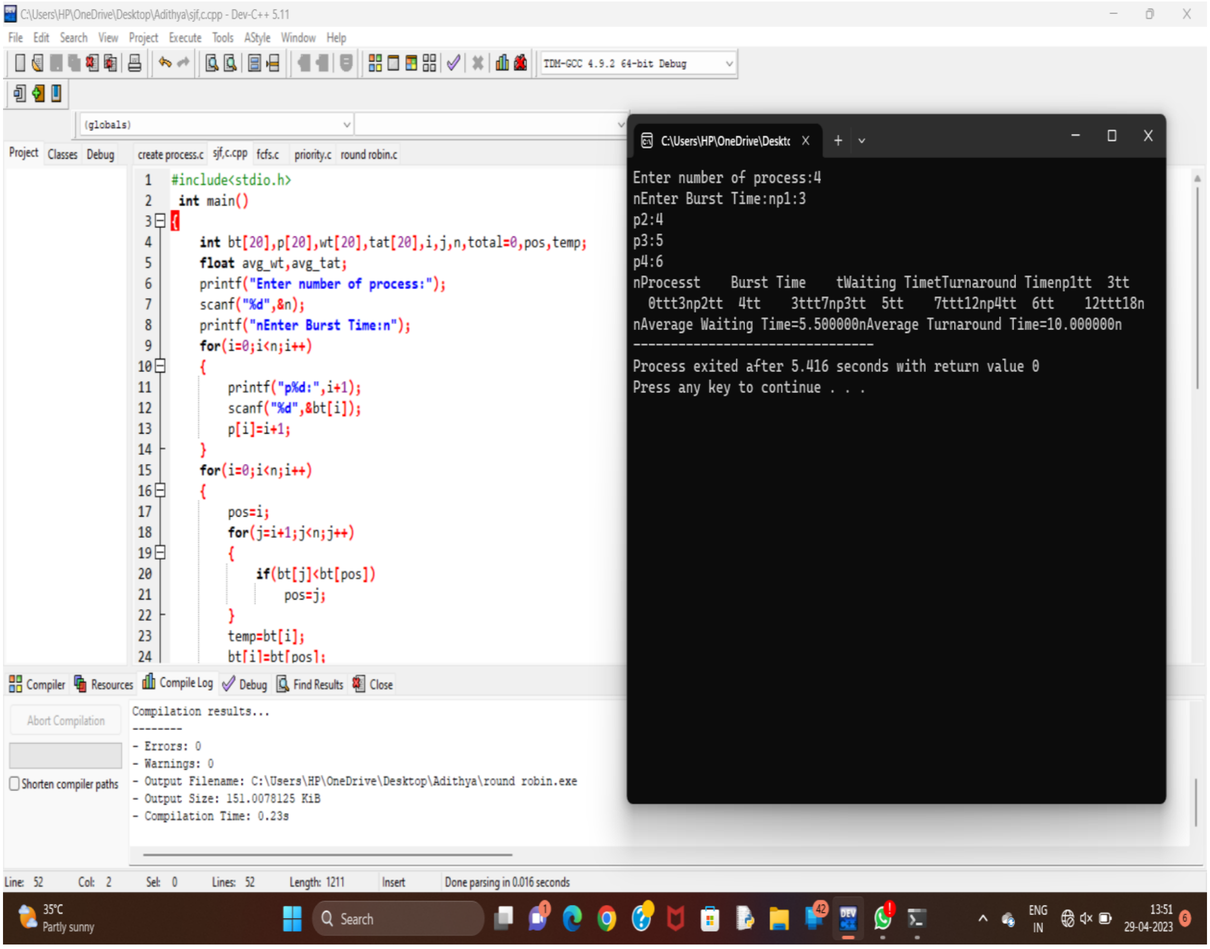
C:\Users\HP\OneDrive\Desktop\Adithya\fcfs.c - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Debug
(globals)
Project Classes Debug
create process.c sjf,c.cpp fcfs.c priority.c round robin.c
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
Line: 47 Col: 2 Sel: 0 Lines: 47 Length: 1071 Insert Done parsing in 0.016 seconds
35°C Partly sunny
Search
ENG IN
13:50 29-04-2023
C:\Users\HP\OneDrive\Deskto

```
            A[i][0] = A[index][0];
            A[index][0] = temp;
        }
    A[0][2] = 0;
    for (i = 1; i < n; i++) {
        A[i][2] = 0;
        for (j = 0; j < i; j++)
            A[i][2] += A[j][1];
        total += A[i][2];
    }
    avg_wt = (float)total / n;
    total = 0;
    printf("P    BT  WT  TAT\n");

    for (i = 0; i < n; i++) {
        A[i][3] = A[i][1] + A[i][2];
        total += A[i][3];
        printf("P%d  %d  %d  %d\n", A[i][0],A[i][1], A[i][2], A[i][3]);
    }
    avg_tat = (float)total / n;
    printf("Average Waiting Time= %f", avg_wt);
    printf("\nAverage Turnaround Time= %f", avg_tat);
}
```

```
Enter number of process: 4
Enter Burst Time:
P1: 5
P2: 4
P3: 3
P4: 7
P       BT      WT      TAT
P3      3       0       3
P2      4       3       7
P1      5       7       12
P4      7       12      19
Average Waiting Time= 5.500000
Average Turnaround Time= 10.250000
--------------------------------
Process exited after 5.527 seconds with return value 3
5
Press any key to continue . . .
```

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\HP\OneDrive\Desktop\Adithya\round robin.exe
- Output Size: 151.0078125 KiB
- Compilation Time: 0.23s
```

3.SJF SCHEDULING



C:\Users\HP\OneDrive\Desktop\Adithya\sjf,c.cpp - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Debug
(globals)
Project Classes Debug
create process.c sjf,c.cpp fcfs.c priority.c round robin.c

```
#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:n");
    for(i=0;i<n;i++)
    {
        printf("p%d:",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];
```

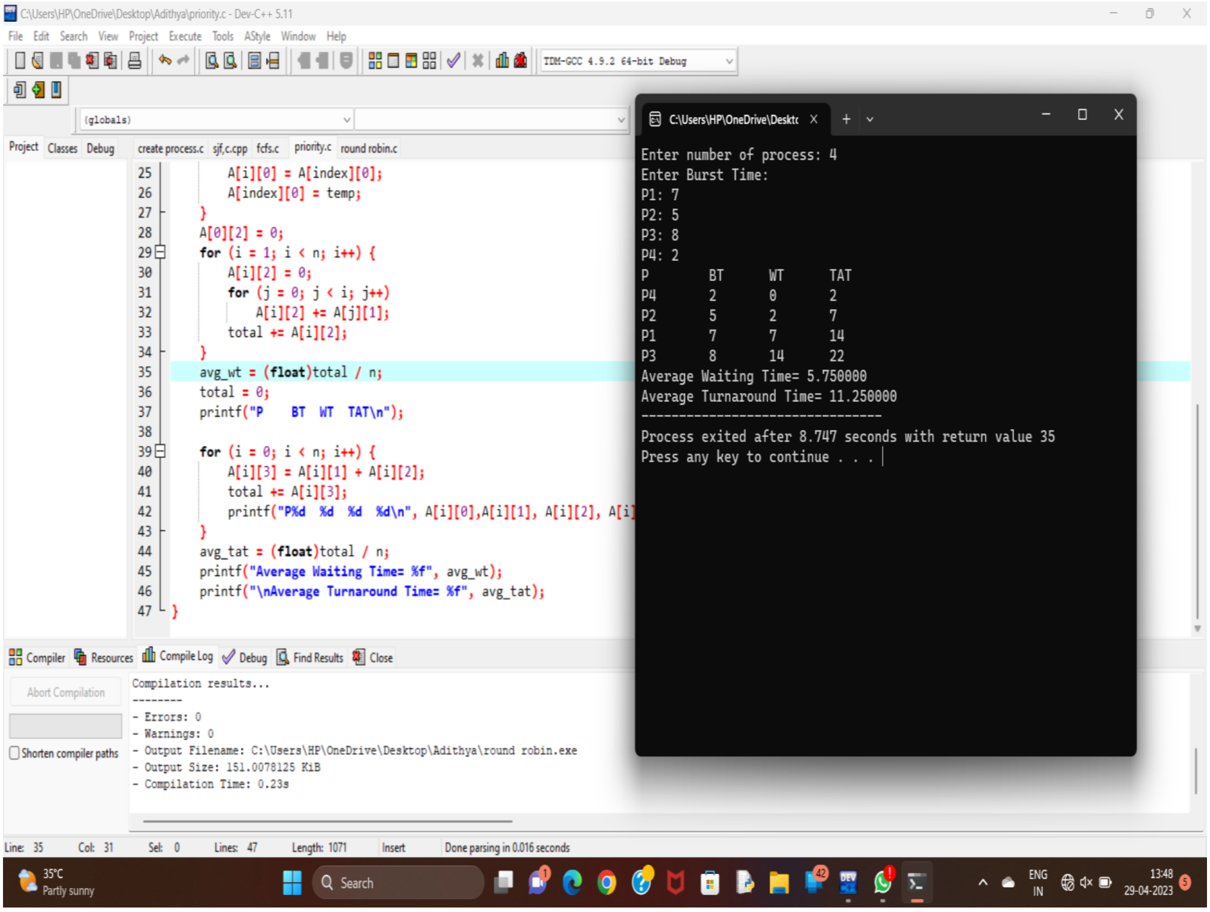
C:\Users\HP\OneDrive\Deskto

```
Enter number of process:4
nEnter Burst Time:np1:3
p2:4
p3:5
p4:6
nProcesst    Burst Time    tWaiting TimetTurnaround Timenp1tt  3tt
  0ttt3np2tt  4tt    3ttt7np3tt  5tt    7ttt12np4tt  6tt    12ttt18n
nAverage Waiting Time=5.500000nAverage Turnaround Time=10.000000n
--------------------------------

Process exited after 5.416 seconds with return value 0
Press any key to continue . . .
```

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\HP\OneDrive\Desktop\Adithya\round robin.exe
- Output Size: 151.0078125 KiB
- Compilation Time: 0.23s
```

Line: 52 Col: 2 Sel: 0 Lines: 52 Length: 1211 Insert Done parsing in 0.016 seconds
35°C Partly sunny
Search
ENG IN
13:51 29-04-2023

4.PRIORITY SCHEDULING



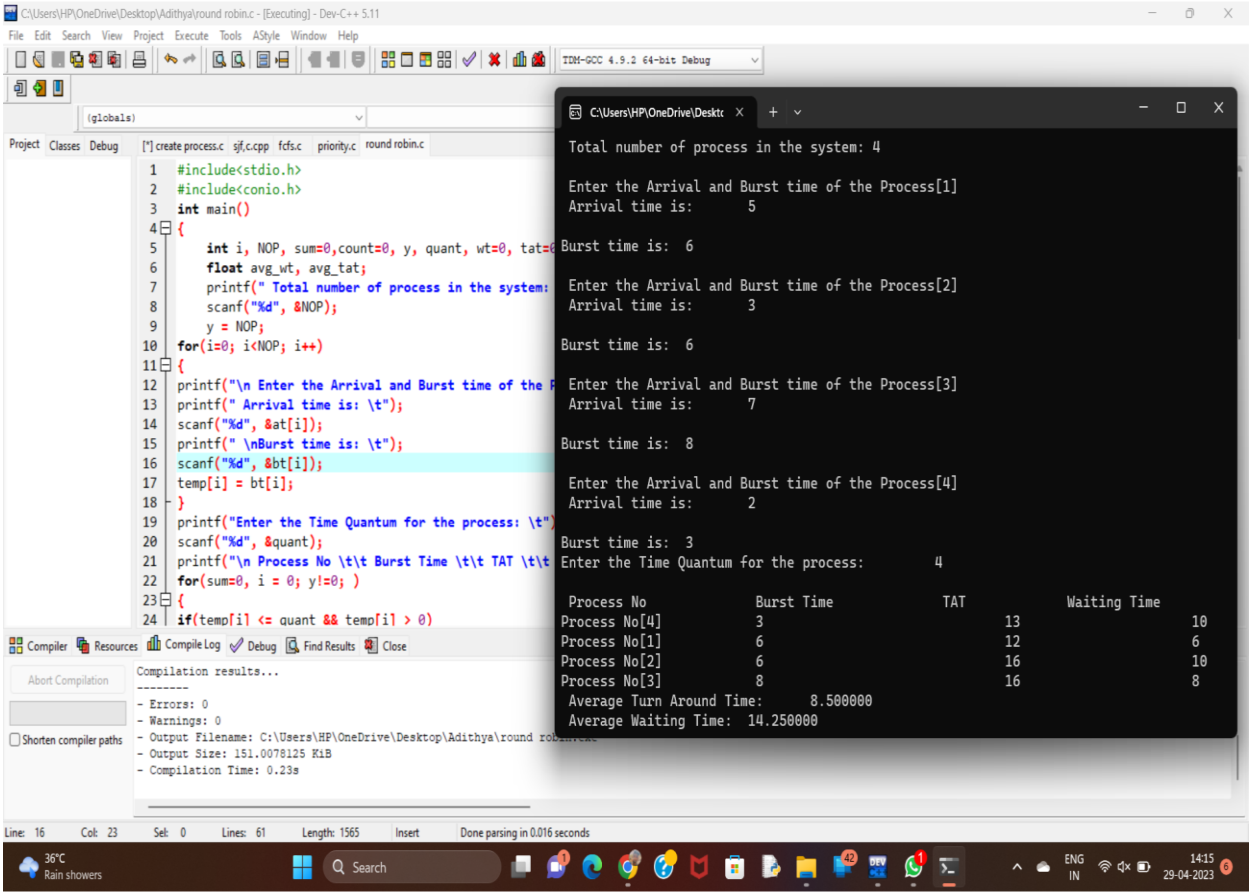
C:\Users\HP\OneDrive\Desktop\Adithya\priority.c - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Debug
(globals)
Project Classes Debug
create process.c sjf,c.cpp fcfs.c priority.c round robin.c
C:\Users\HP\OneDrive\Desktc
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
Line: 35 Col: 31 Sel: 0 Lines: 47 Length: 1071 Insert Done parsing in 0.016 seconds
35°C
Partly sunny
Search
ENG
IN
13:48
29-04-2023

```c
            A[i][0] = A[index][0];
            A[index][0] = temp;
        }
    A[0][2] = 0;
    for (i = 1; i < n; i++) {
        A[i][2] = 0;
        for (j = 0; j < i; j++)
            A[i][2] += A[j][1];
        total += A[i][2];
    }
    avg_wt = (float)total / n;
    total = 0;
    printf("P    BT  WT  TAT\n");

    for (i = 0; i < n; i++) {
        A[i][3] = A[i][1] + A[i][2];
        total += A[i][3];
        printf("P%d  %d  %d  %d\n", A[i][0],A[i][1], A[i][2], A[i]
    }
    avg_tat = (float)total / n;
    printf("Average Waiting Time= %f", avg_wt);
    printf("\nAverage Turnaround Time= %f", avg_tat);
}
```

```
Enter number of process: 4
Enter Burst Time:
P1: 7
P2: 5
P3: 8
P4: 2
P       BT      WT      TAT
P4      2       0       2
P2      5       2       7
P1      7       7       14
P3      8       14      22
Average Waiting Time= 5.750000
Average Turnaround Time= 11.250000
--------------------------------

Process exited after 8.747 seconds with return value 35
Press any key to continue . . .
```

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\HP\OneDrive\Desktop\Adithya\round robin.exe
- Output Size: 151.0078125 KiB
- Compilation Time: 0.23s
```

5.ROUND ROBIN SCHEDULING


C:\Users\HP\OneDrive\Desktop\Adithya\round robin.c - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Debug
(globals)
Project Classes Debug
[*] create process.c sjf,c.cpp fcfs.c priority.c round robin.c
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
Line: 16 Col: 23 Sel: 0 Lines: 61 Length: 1565 Insert Done parsing in 0.016 seconds
36°C Rain showers
Search
ENG IN
14:15 29-04-2023
C:\Users\HP\OneDrive\Deskt

```c
#include<stdio.h>
#include<conio.h>
int main()
{
    int i, NOP, sum=0,count=0, y, quant, wt=0, tat=
    float avg_wt, avg_tat;
    printf(" Total number of process in the system:
    scanf("%d", &NOP);
    y = NOP;
for(i=0; i<NOP; i++)
{
printf("\n Enter the Arrival and Burst time of the P
printf(" Arrival time is: \t");
scanf("%d", &at[i]);
printf(" \nBurst time is: \t");
scanf("%d", &bt[i]);
temp[i] = bt[i];
}
printf("Enter the Time Quantum for the process: \t")
scanf("%d", &quant);
printf("\n Process No \t\t Burst Time \t\t TAT \t\t
for(sum=0, i = 0; y!=0; )
{
if(temp[i] <= quant && temp[i] > 0)
```

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\HP\OneDrive\Desktop\Adithya\round rob
- Output Size: 151.0078125 KiB
- Compilation Time: 0.23s
```

```
 Total number of process in the system: 4

 Enter the Arrival and Burst time of the Process[1]
 Arrival time is:       5

Burst time is:  6

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

Burst time is:  6

 Enter the Arrival and Burst time of the Process[3]
 Arrival time is:       7

Burst time is:  8

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

Burst time is:  3
Enter the Time Quantum for the process:         4

 Process No             Burst Time              TAT             Waiting Time
Process No[4]           3                               13                      10
Process No[1]           6                               12                      6
Process No[2]           6                               16                      10
Process No[3]           8                               16                      8
 Average Turn Around Time:      8.500000
 Average Waiting Time:  14.250000
```