

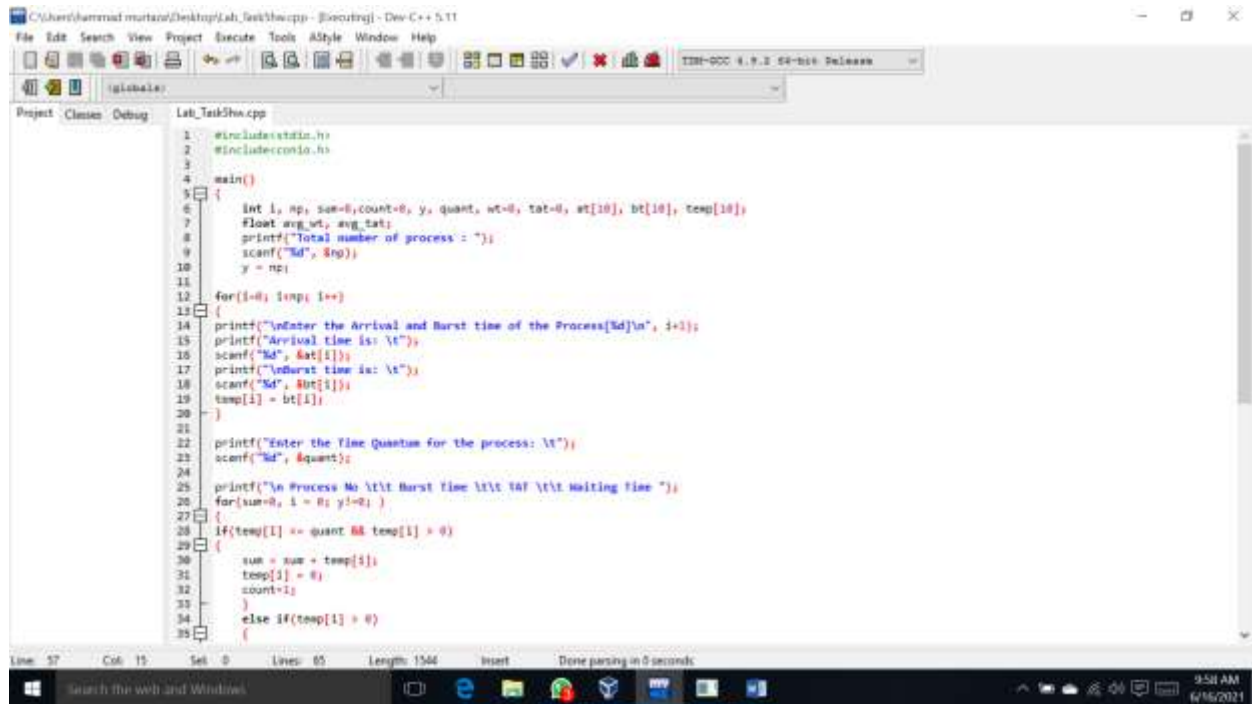
# HAMMAD MURTAZA

## SID: 11146

## OS LAB 5

### Q1:

### CODE:



```
1 #include <stdio.h>
2 #include <conio.h>
3
4 main()
5 {
6     int i, np, sum=0, count=0, y, quant, wt=0, tat=0, at[10], bt[10], temp[10];
7     float avg_wt, avg_tat;
8     printf("Total number of process : ");
9     scanf("%d", &np);
10    y = np;
11
12    for(i=0; i<np; i++)
13    {
14        printf("\nEnter the Arrival and Burst time of the Process[%d]\n", i+1);
15        printf("Arrival time is: \t");
16        scanf("%d", &at[i]);
17        printf("\nEnter the Burst time is: \t");
18        scanf("%d", &bt[i]);
19        temp[i] = bt[i];
20    }
21
22    printf("Enter the Time Quantum for the process: \t");
23    scanf("%d", &quant);
24
25    printf("\n Process No \t\t\t Burst time \t\t\t TAT \t\t\t Waiting time ");
26    for(sum=0, i = 0; i<np; i++)
27    {
28        if(temp[i] <= quant && temp[i] > 0)
29        {
30            sum = sum + temp[i];
31            temp[i] = 0;
32            count++;
33        }
34        else if(temp[i] > 0)
35        {
36            wt = wt + quant;
37            temp[i] = temp[i] - quant;
38        }
39    }
```

```

C:\Users\hammad murad\Desktop\Lab_Task3\cpp - [gcc] - Dev C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
igibela:
Lab_Task3.cpp
31 temp[i] = 4;
32 count++;
33 }
34 else if(temp[i] > 0)
35 {
36     temp[i] = temp[i] - quant;
37     sum = sum + quant;
38 }
39 if(temp[i]==0 && count==1)
40 {
41     y--;
42     printf("\nProcess No[%d] \t\t %d\t\t %d\t\t %d", i+1, bt[i], sum-at[i], sum-at[i]-bt[i]);
43     wt = wt+sum-at[i]-bt[i];
44     tat = tat+sum-at[i];
45     count = 0;
46 }
47 if(i==np-1)
48 {
49     i=0;
50 }
51 else if(at[i+1]<sum)
52 {
53     i++;
54 }
55 else
56 {
57     i=0;
58 }
59 }
60 avg_wt = wt * 1.0/np;
61 avg_tat = tat * 1.0/np;
62 printf("\n Average Turn Around Time: \t%f", avg_wt);
63 printf("\n Average Waiting Time: \t%f", avg_tat);
64 getch();
65 }

```

# OUTPUT:

```

C:\Users\hammad murad\Desktop\Lab_Task3\cpp - [gcc] - Dev C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
igibela:
Lab_Task3.exe
Total number of process : 4
Enter the Arrival and Burst time of the Process[1]
Arrival time is: 3
Burst time is: 5
Enter the Arrival and Burst time of the Process[2]
Arrival time is: 2
Burst time is: 15
Enter the Arrival and Burst time of the Process[3]
Arrival time is: 12
Burst time is: 3
Enter the Arrival and Burst time of the Process[4]
Arrival time is: 15
Burst time is: 15
Enter the Time Quantum for the process: 5

Process No      Burst Time      TAT      Waiting Time
Process No[1]   5              2        -5
Process No[3]   3              6         3
Process No[2]   15             26       11
Process No[4]   15             23         8
Average Turn Around Time: 4.750000
Average Waiting Time: 14.250000

```

## Q2:

**ANSWER:**

**C) SHORTEST JOB NEXT**