

HAMMAD MURTAZA

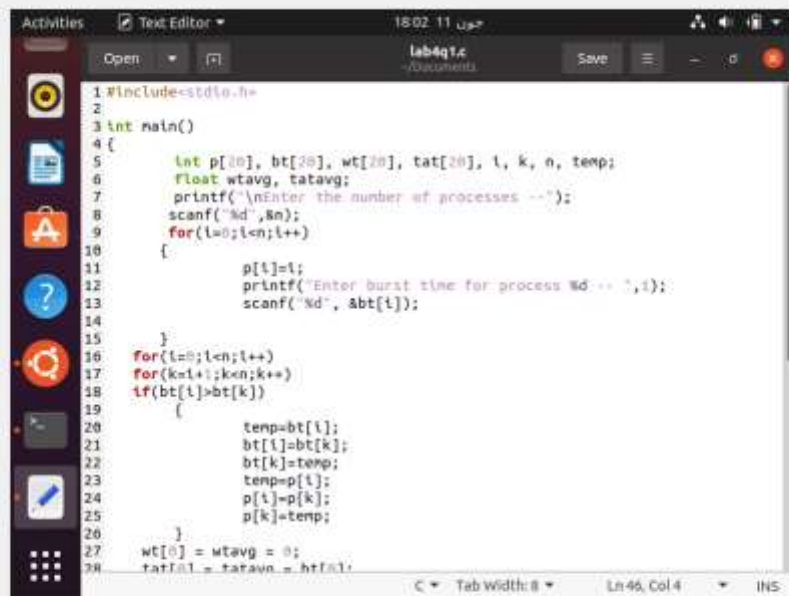
SID: 11146

CID: 107241

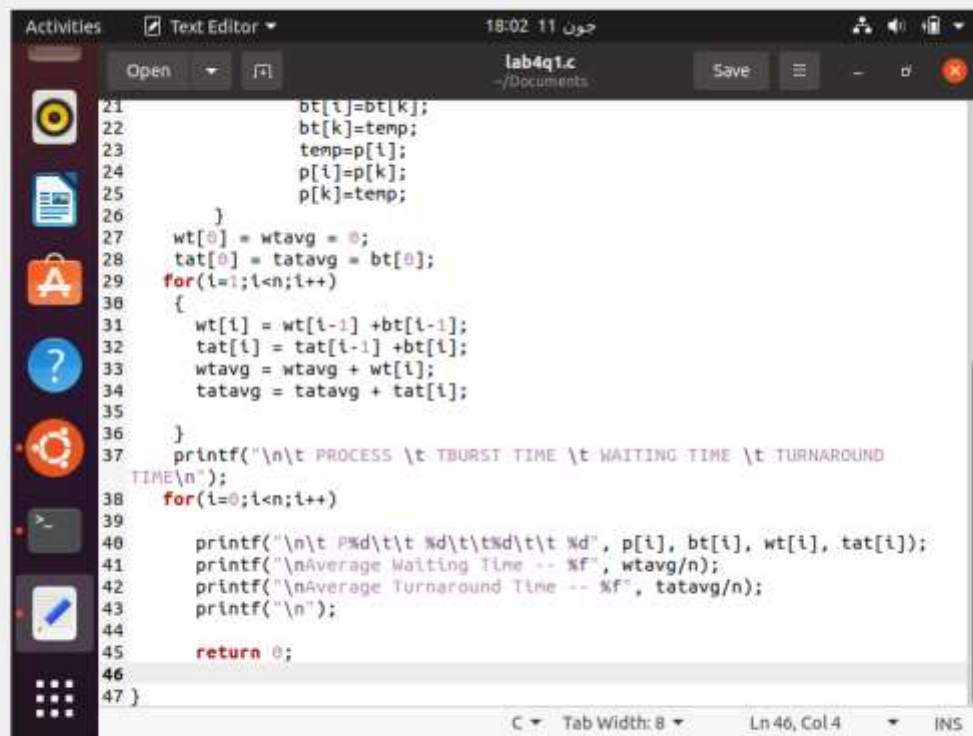
OS LAB 4

Q1:

CODE:

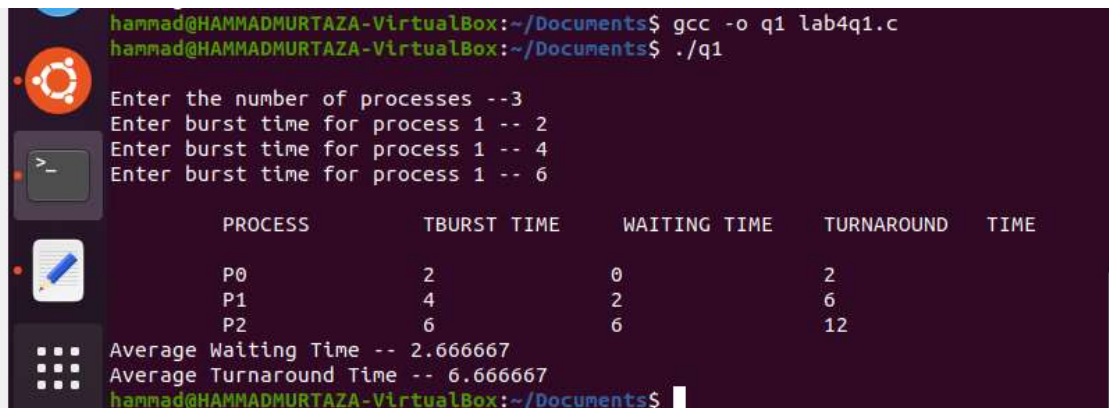


```
1 #include<stdio.h>
2
3 int main()
4 {
5     int p[20], bt[20], wt[20], tat[20], i, k, n, temp;
6     float wtavg, tatavg;
7     printf("\nEnter the number of processes --");
8     scanf("%d", &n);
9     for(i=0; i<n; i++)
10     {
11         p[i]=i;
12         printf("Enter burst time for process %d -- ", i);
13         scanf("%d", &bt[i]);
14     }
15     for(i=0; i<n; i++)
16     for(k=i+1; k<n; k++)
17     if(bt[i]>bt[k])
18     {
19         temp=bt[i];
20         bt[i]=bt[k];
21         bt[k]=temp;
22         temp=p[i];
23         p[i]=p[k];
24         p[k]=temp;
25     }
26     wt[0] = wtavg = 0;
27     tat[0] = tatavg = bt[0];
```



```
21         bt[i]=bt[k];
22         bt[k]=temp;
23         temp=p[i];
24         p[i]=p[k];
25         p[k]=temp;
26     }
27     wt[0] = wtavg = 0;
28     tat[0] = tatavg = bt[0];
29     for(i=1;i<n;i++)
30     {
31         wt[i] = wt[i-1] +bt[i-1];
32         tat[i] = tat[i-1] +bt[i];
33         wtavg = wtavg + wt[i];
34         tatavg = tatavg + tat[i];
35     }
36     printf("\n\t PROCESS \t TBURST TIME \t WAITING TIME \t TURNAROUND
37     TIME\n");
38     for(i=0;i<n;i++)
39     {
40         printf("\n\t P%d\t\t %d\t\t %d\t\t %d", p[i], bt[i], wt[i], tat[i]);
41         printf("\nAverage Waiting Time -- %f", wtavg/n);
42         printf("\nAverage Turnaround Time -- %f", tatavg/n);
43         printf("\n");
44     }
45     return 0;
46 }
47 }
```

OUTPUT:



```
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$ gcc -o q1 lab4q1.c
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$ ./q1

Enter the number of processes --3
Enter burst time for process 1 -- 2
Enter burst time for process 1 -- 4
Enter burst time for process 1 -- 6

      PROCESS      TBURST TIME      WAITING TIME      TURNAROUND      TIME
      P0            2            0            2
      P1            4            2            6
      P2            6            6            12

Average Waiting Time -- 2.666667
Average Turnaround Time -- 6.666667
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$
```