

HAMMAD MURTAZA

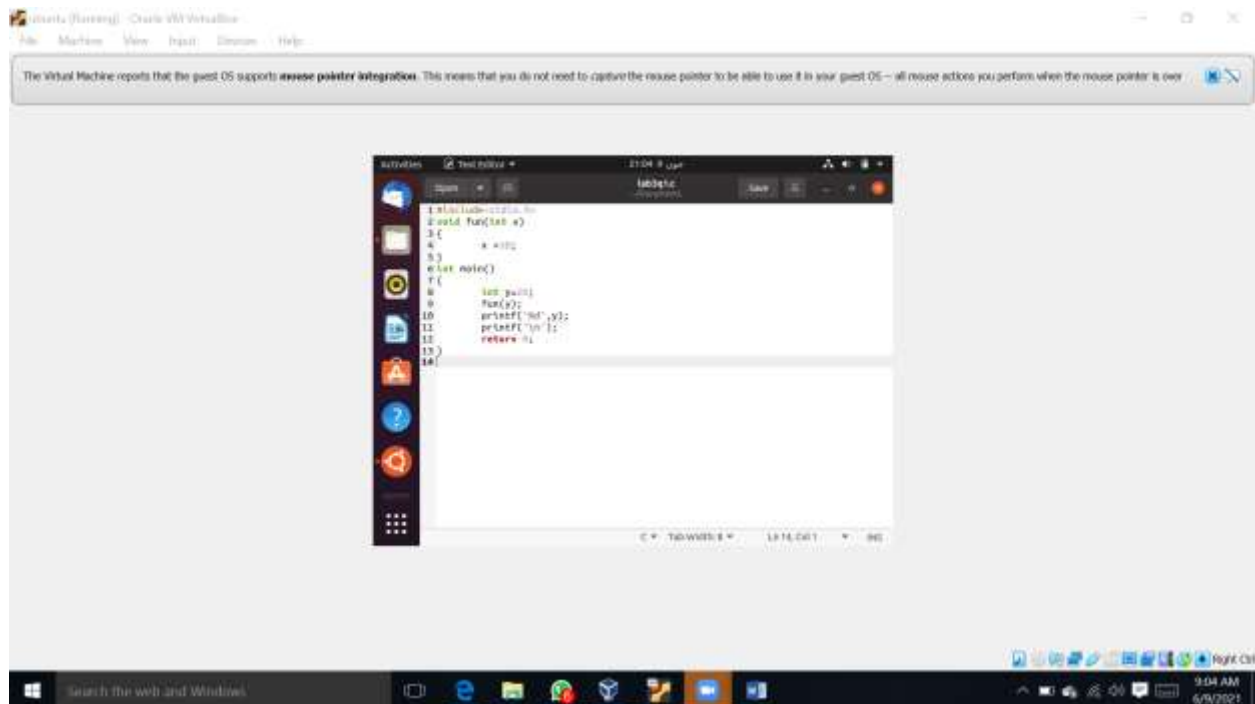
SID: 11146

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OS LAB 3

Q1:

CODE:

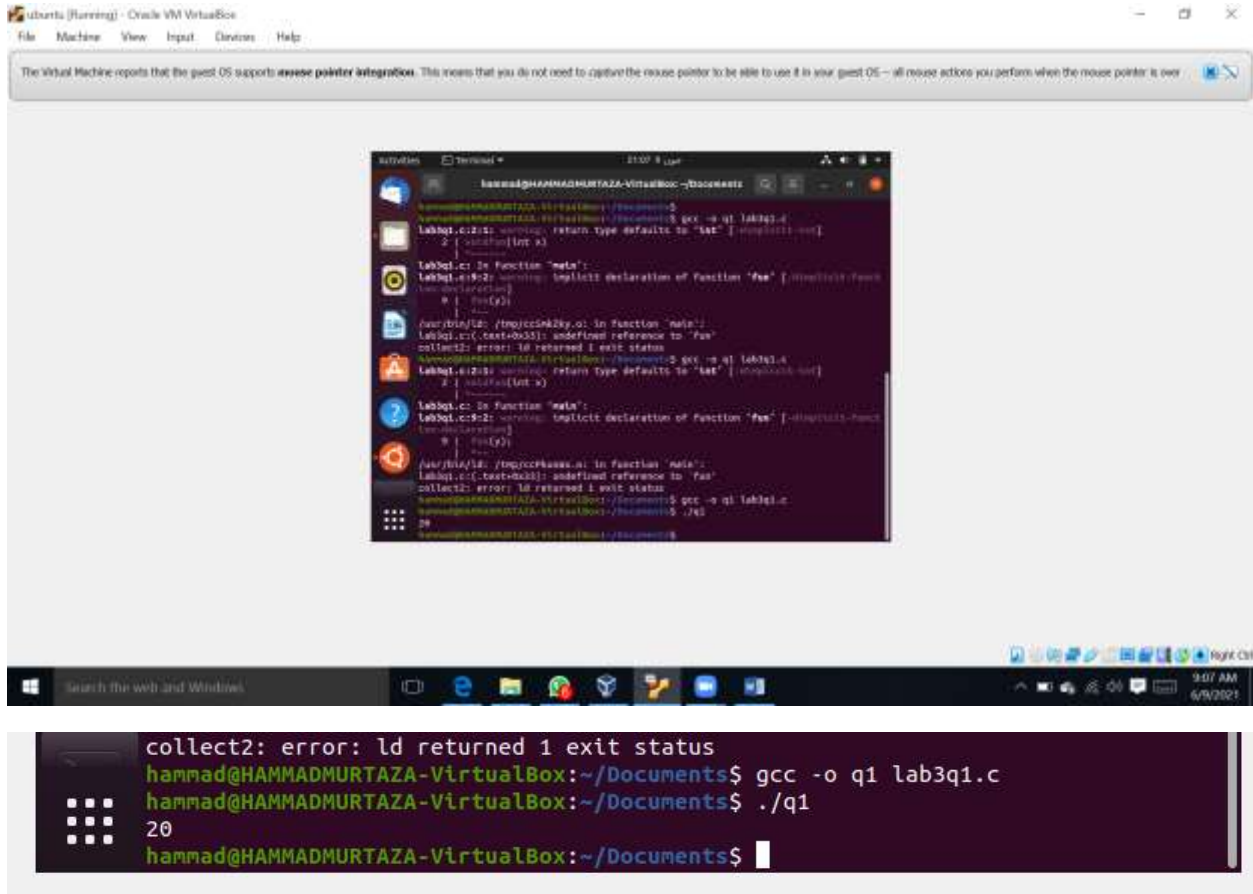


The screenshot shows a Windows 10 desktop environment. A window titled 'Code Editor' is open, displaying a C program. The code is as follows:

```
1 #include <stdio.h>
2 void fun(int a)
3 {
4     a * 100;
5 }
6 int main()
7 {
8     int x;
9     x = 10;
10    printf("%d", x);
11    printf("\n");
12    return 0;
13 }
```

The program is a simple C program that defines a function `fun` which multiplies its argument by 100. In the `main` function, a variable `x` is declared and assigned the value 10. The program then prints the value of `x` using `printf` and returns 0.

OUTPUT:



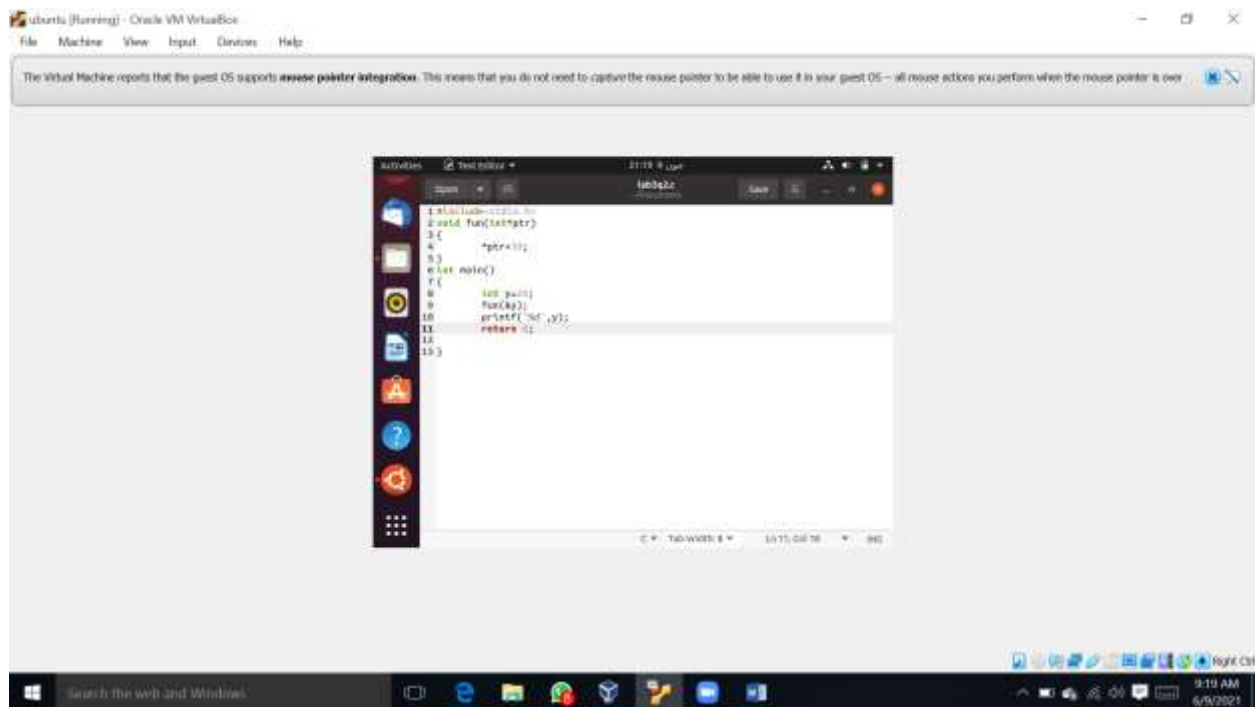
The screenshot shows a Windows desktop with a VirtualBox window titled "ubuntu (Running) - Oracle VM VirtualBox". Inside the window, a terminal window is open, displaying the following C code and compilation output:

```
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$ gcc -o q1 lab3q1.c
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$ ./q1
20
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$
```

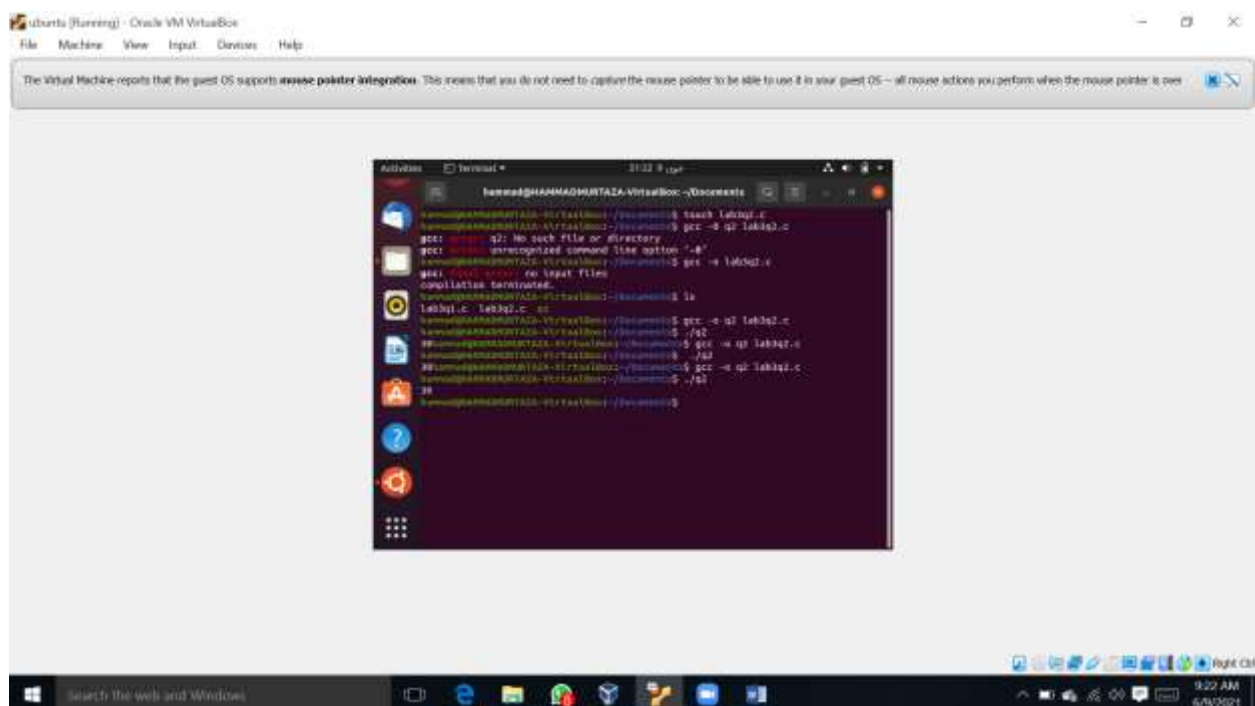
The terminal output shows several warnings and errors during compilation and execution. The warnings include "warning: return type defaults to 'int' [-Wimplicit-int]", "warning: implicit declaration of function 'foo' [-Wimplicit-declaration]", and "warning: implicit declaration of function 'foo' [-Wimplicit-declaration]". The errors include "collect2: error: ld returned 1 exit status" and "collect2: error: ld returned 1 exit status".

Q2:

CODE:



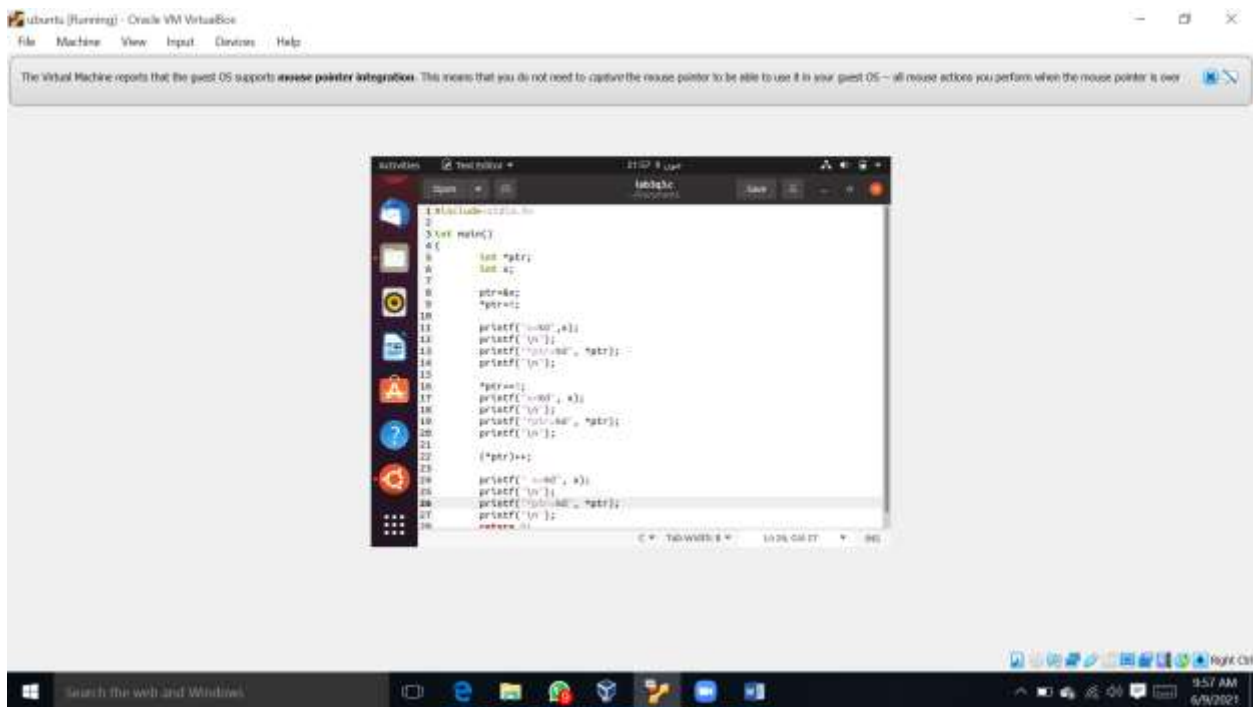
OUTPUT:

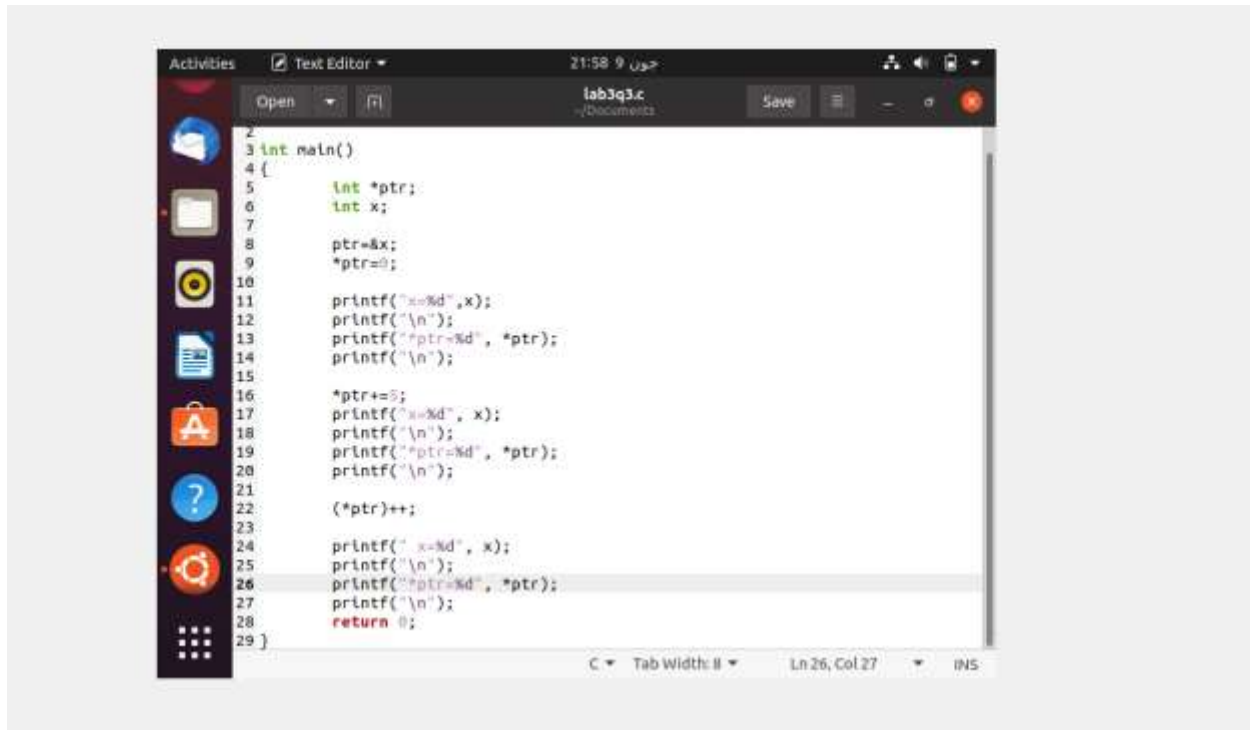


```
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$ ./q2
30hammad@HAMMADMURTAZA-VirtualBox:~/Documents$ gcc -o q2 lab3q2.c
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$ ./q2
30
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$
```

Q3:

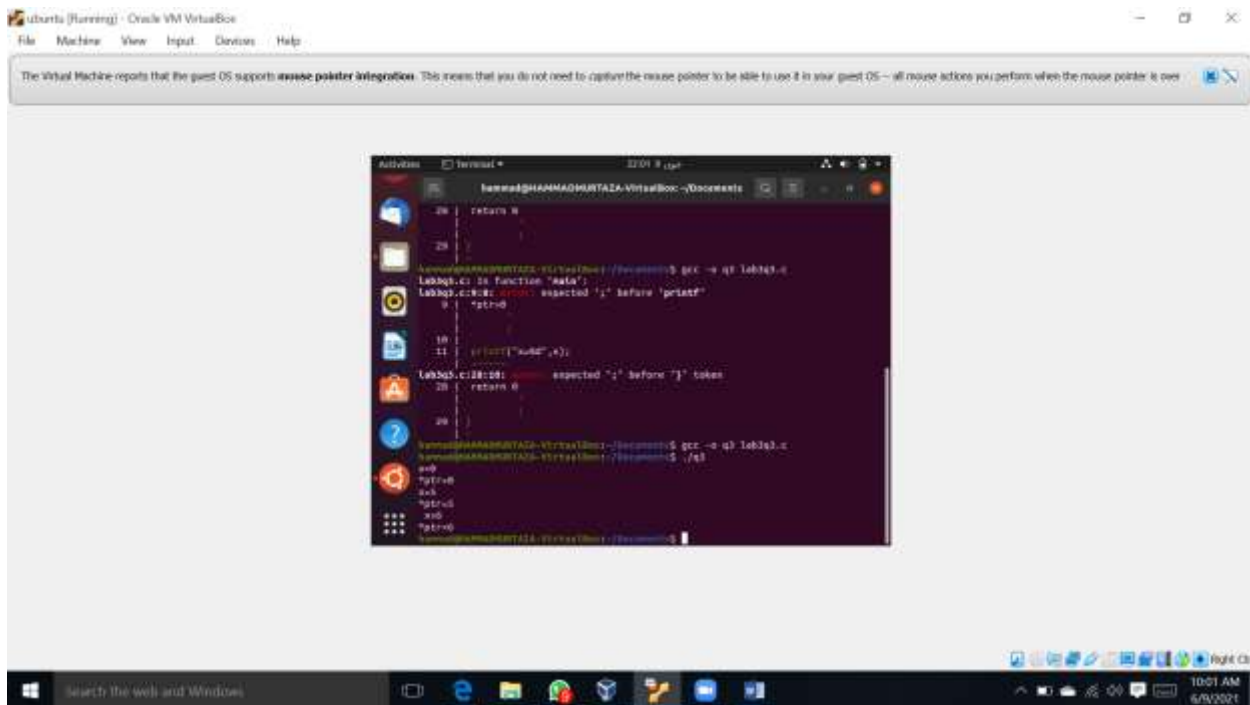
CODE:





```
2
3 int main()
4 {
5     int *ptr;
6     int x;
7
8     ptr=&x;
9     *ptr=0;
10
11     printf("x=%d",x);
12     printf("\n");
13     printf("ptr=%d", *ptr);
14     printf("\n");
15
16     *ptr+=5;
17     printf("x=%d", x);
18     printf("\n");
19     printf("ptr=%d", *ptr);
20     printf("\n");
21
22     (*ptr)++;
23
24     printf("x=%d", x);
25     printf("\n");
26     printf("ptr=%d", *ptr);
27     printf("\n");
28     return 0;
29 }
```

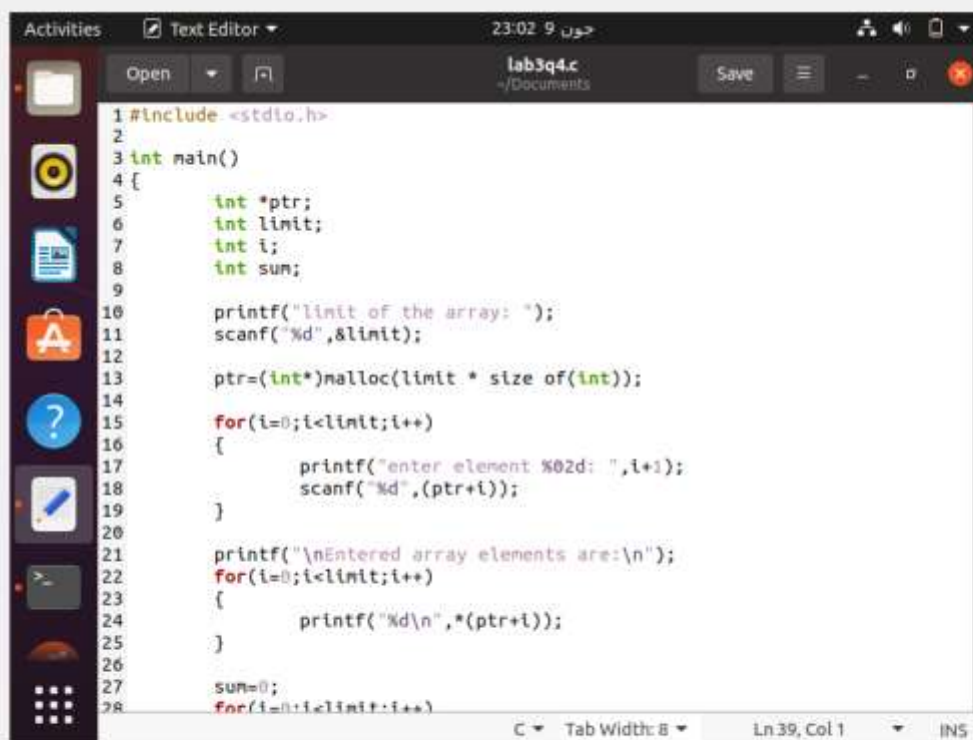
OUTPUT:




```
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$ gcc -o q3 lab3q3.c
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$ ./q3
x=0
*ptr=0
x=5
*ptr=5
x=6
*ptr=6
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$
```

Q4:

CODE:



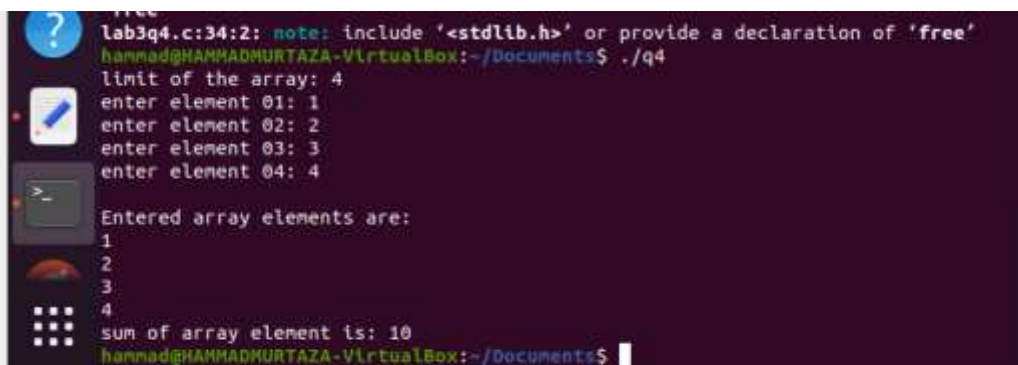
```
1 #include <stdio.h>
2
3 int main()
4 {
5     int *ptr;
6     int limit;
7     int i;
8     int sum;
9
10    printf("limit of the array: ");
11    scanf("%d",&limit);
12
13    ptr=(int*)malloc(limit * sizeof(int));
14
15    for(i=0;i<limit;i++)
16    {
17        printf("enter element %02d: ",i+1);
18        scanf("%d",&(ptr+i));
19    }
20
21    printf("\nEntered array elements are:\n");
22    for(i=0;i<limit;i++)
23    {
24        printf("%d\n",*(ptr+i));
25    }
26
27    sum=0;
28    for(i=0;i<limit;i++)
```



A screenshot of a text editor window titled 'lab3q4.c' showing C code. The code defines a limit, allocates memory, takes user input for array elements, prints them, and calculates their sum. The code is as follows:

```
12
13     ptr=(int*)malloc(limit * sizeof(int));
14
15     for(i=0;i<limit;i++)
16     {
17         printf("enter element %02d: ",i+1);
18         scanf("%d",&ptr[i]);
19     }
20
21     printf("\nEntered array elements are:\n");
22     for(i=0;i<limit;i++)
23     {
24         printf("%d\n",&ptr[i]);
25     }
26
27     sum=0;
28     for(i=0;i<limit;i++)
29     {
30         sum+=*(&ptr[i]);
31     }
32     printf("sum of array element is: %d\n",sum);
33
34     free(ptr);
35     return 0;
36
37
38
39
```

OUTPUT:



A screenshot of a terminal window showing the execution of the C program. The output is as follows:

```
lab3q4.c:34:2: note: include '<stdlib.h>' or provide a declaration of 'free'
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$ ./q4
limit of the array: 4
enter element 01: 1
enter element 02: 2
enter element 03: 3
enter element 04: 4

Entered array elements are:
1
2
3
4
sum of array element is: 10
hammad@HAMMADMURTAZA-VirtualBox:~/Documents$
```

