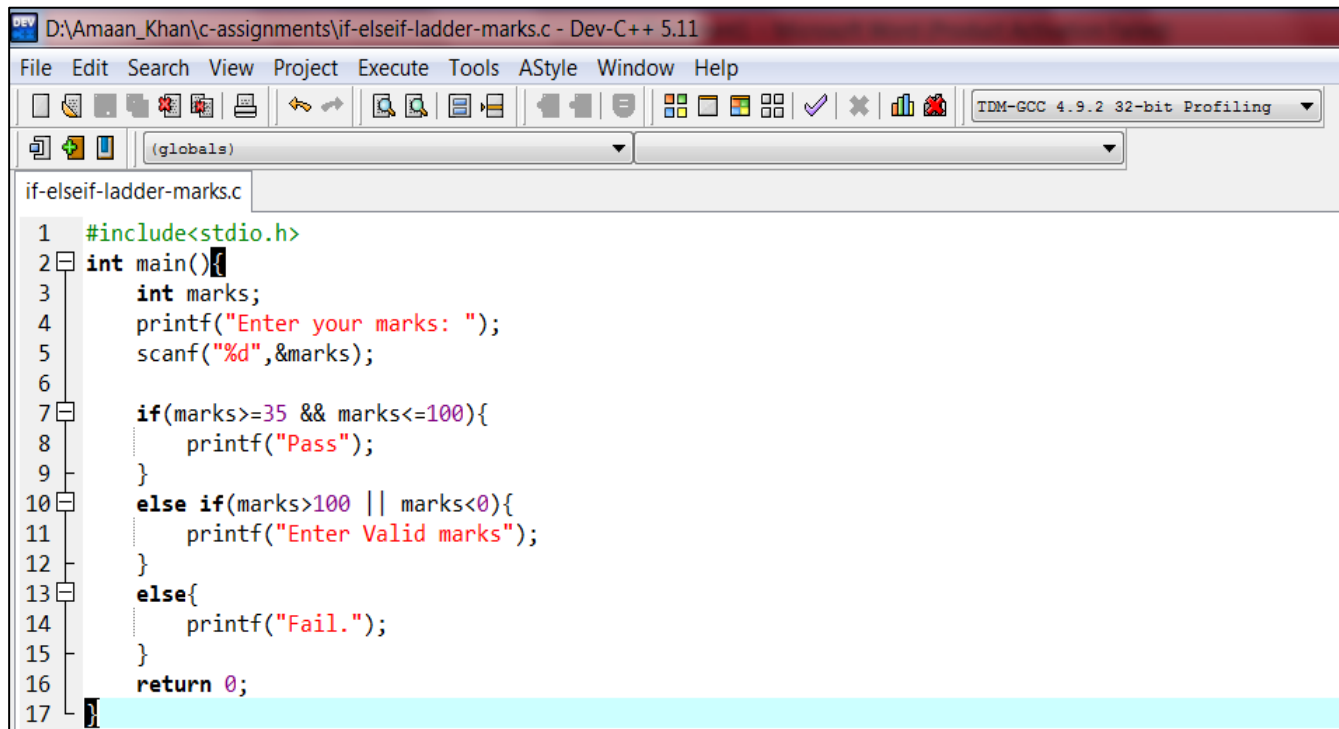
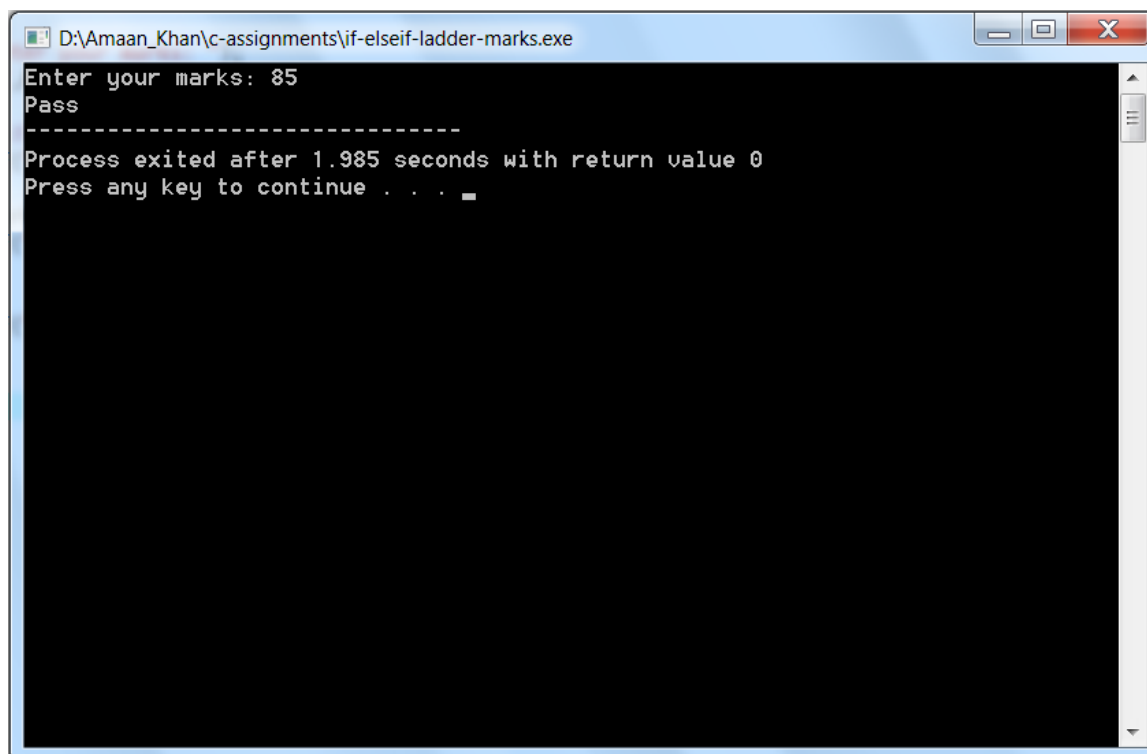


**Q.1) Demonstration of Conditional Statement using logical AND Operator
(if- else if - else) with limits?**



The screenshot shows the Dev-C++ IDE with a file named 'if-elseif-ladder-marks.c'. The code is as follows:

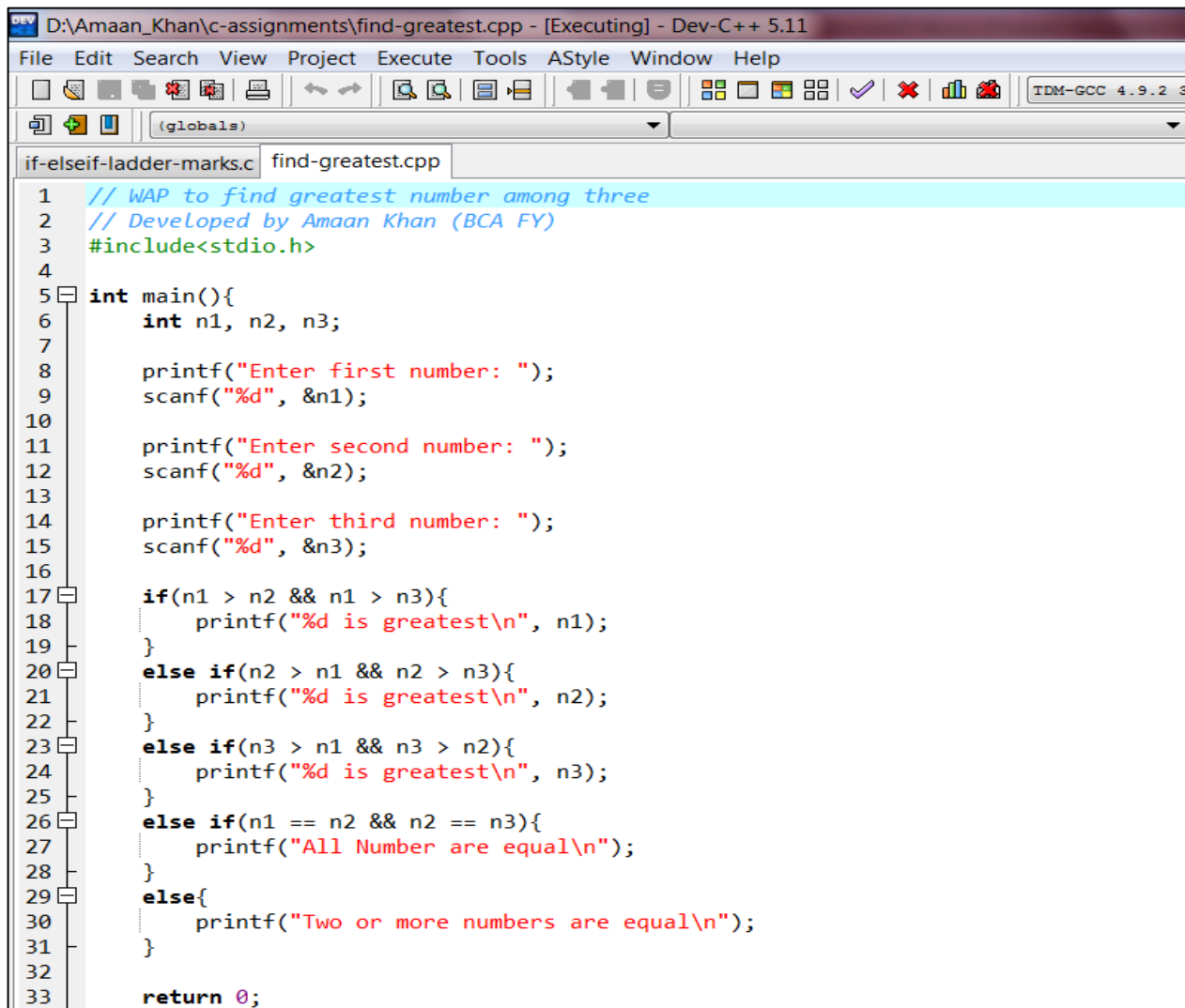
```
1 #include<stdio.h>
2 int main(){
3     int marks;
4     printf("Enter your marks: ");
5     scanf("%d",&marks);
6
7     if(marks>=35 && marks<=100){
8         printf("Pass");
9     }
10    else if(marks>100 || marks<0){
11        printf("Enter Valid marks");
12    }
13    else{
14        printf("Fail.");
15    }
16    return 0;
17 }
```



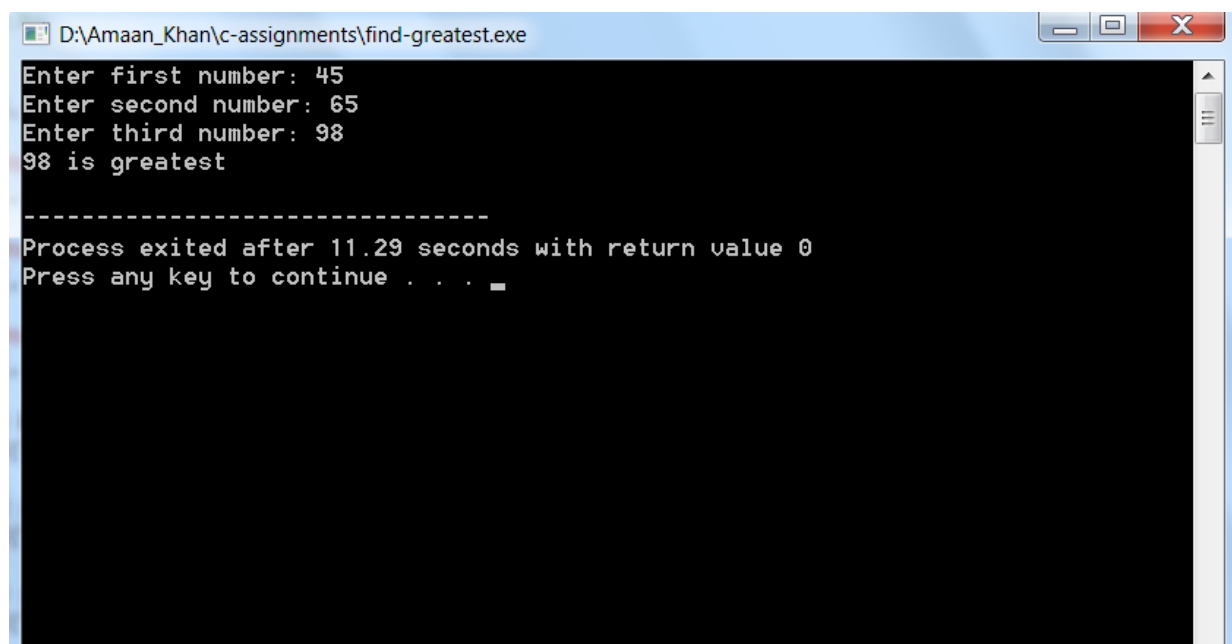
The screenshot shows the execution of the program. The user entered '85' for marks, and the program outputted 'Pass'. The console also shows the process exit time and a prompt to press any key to continue.

```
D:\Amaan_Khan\c-assignments\if-elseif-ladder-marks.exe
Enter your marks: 85
Pass
-----
Process exited after 1.985 seconds with return value 0
Press any key to continue . . .
```

Q.2) Write a program to find out Greatest number among three number?



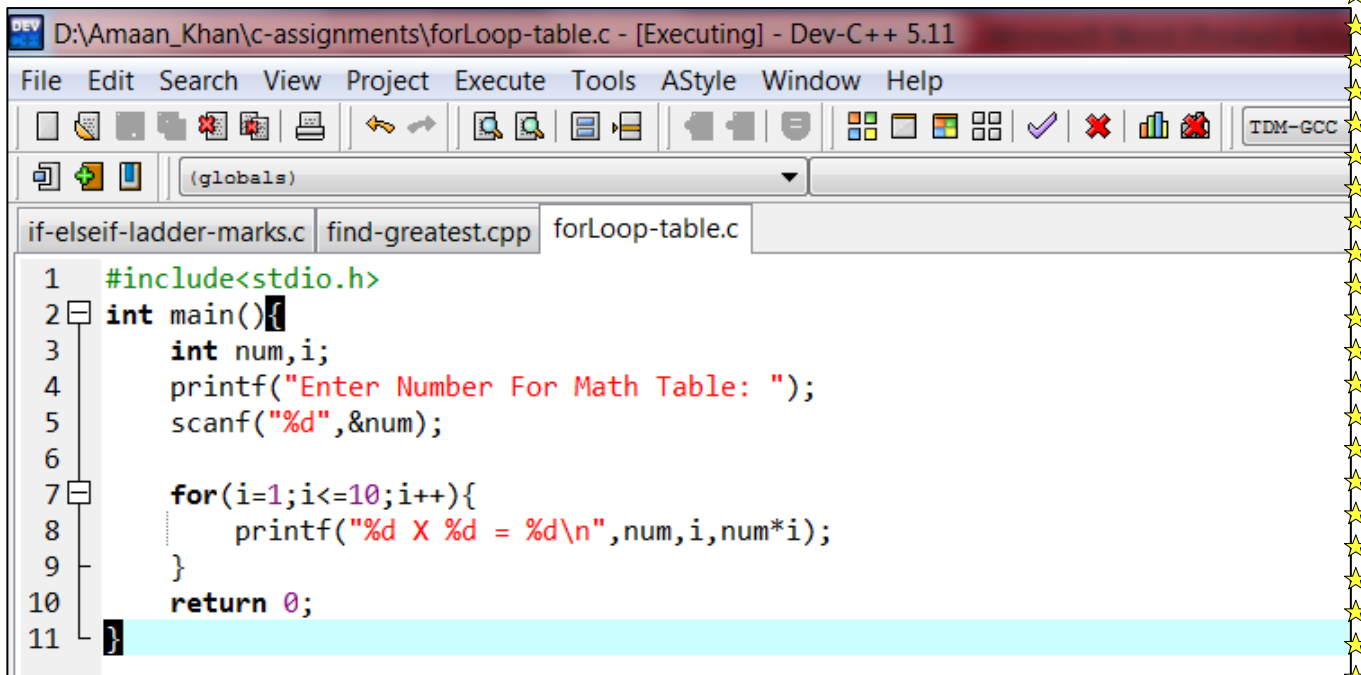
```
1 // WAP to find greatest number among three
2 // Developed by Amaan Khan (BCA FY)
3 #include<stdio.h>
4
5 int main(){
6     int n1, n2, n3;
7
8     printf("Enter first number: ");
9     scanf("%d", &n1);
10
11     printf("Enter second number: ");
12     scanf("%d", &n2);
13
14     printf("Enter third number: ");
15     scanf("%d", &n3);
16
17     if(n1 > n2 && n1 > n3){
18         printf("%d is greatest\n", n1);
19     }
20     else if(n2 > n1 && n2 > n3){
21         printf("%d is greatest\n", n2);
22     }
23     else if(n3 > n1 && n3 > n2){
24         printf("%d is greatest\n", n3);
25     }
26     else if(n1 == n2 && n2 == n3){
27         printf("All Number are equal\n");
28     }
29     else{
30         printf("Two or more numbers are equal\n");
31     }
32
33     return 0;
```



```
Enter first number: 45
Enter second number: 65
Enter third number: 98
98 is greatest

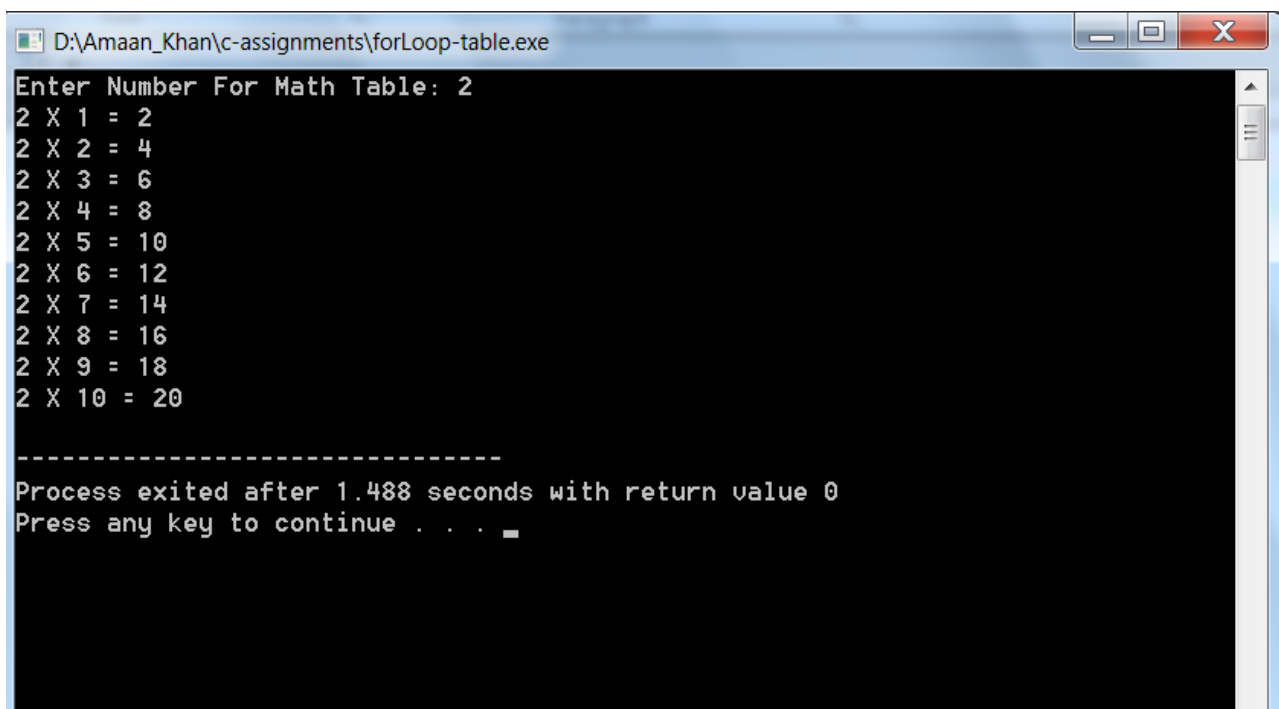
-----
Process exited after 11.29 seconds with return value 0
Press any key to continue . . .
```

Q.3) WAP for Looping statements math Table in this format (2x1=2)?



The screenshot shows the Dev-C++ 5.11 IDE with the file 'forLoop-table.c' open. The code is as follows:

```
1  #include<stdio.h>
2  int main(){
3      int num,i;
4      printf("Enter Number For Math Table: ");
5      scanf("%d",&num);
6
7      for(i=1;i<=10;i++){
8          printf("%d X %d = %d\n",num,i,num*i);
9      }
10     return 0;
11 }
```

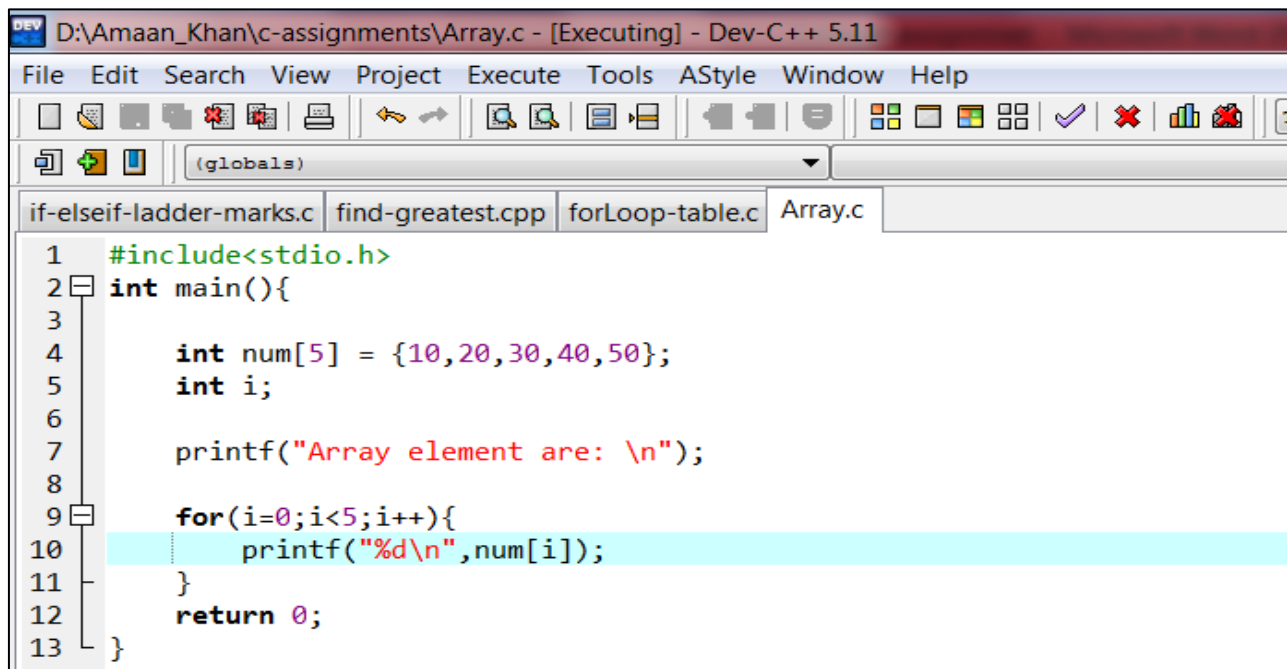


The screenshot shows the execution of the program. The user has entered '2' for the number. The output displays the multiplication table for 2, from 2 x 1 to 2 x 10. The program then exits with a return value of 0.

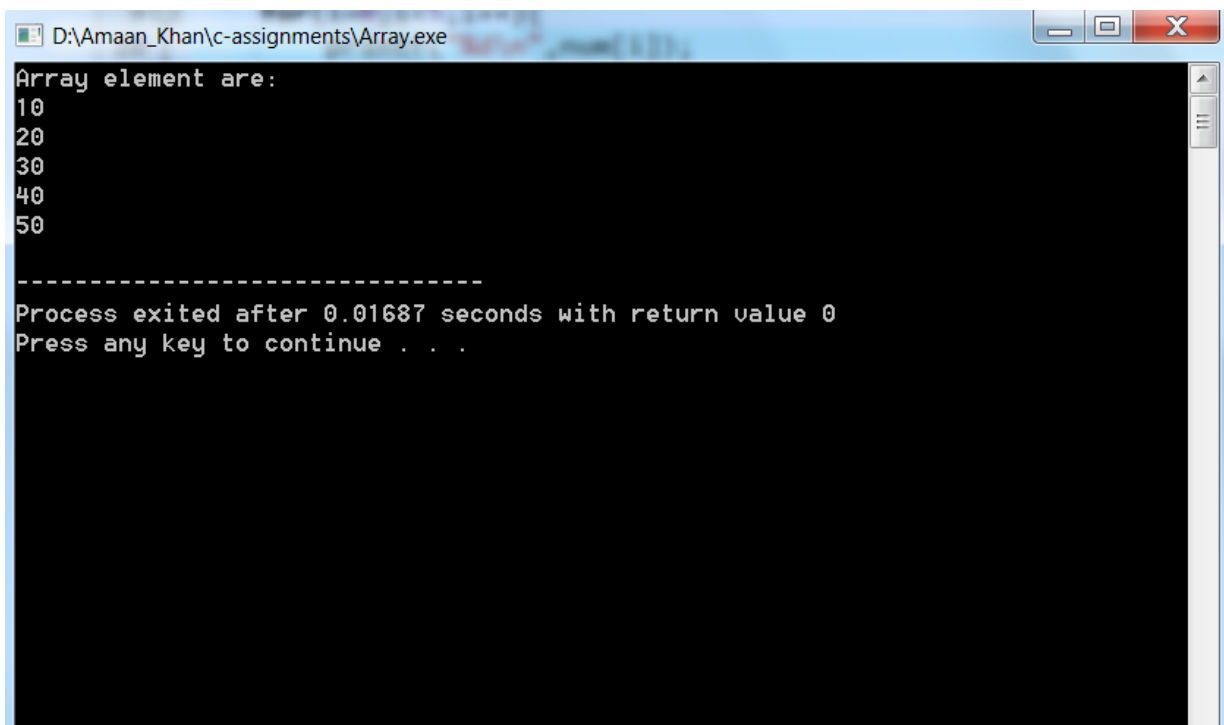
```
D:\Amaan_Khan\c-assignments\forLoop-table.exe
Enter Number For Math Table: 2
2 X 1 = 2
2 X 2 = 4
2 X 3 = 6
2 X 4 = 8
2 X 5 = 10
2 X 6 = 12
2 X 7 = 14
2 X 8 = 16
2 X 9 = 18
2 X 10 = 20

-----
Process exited after 1.488 seconds with return value 0
Press any key to continue . . .
```

Q.4) Write a C Program to read 5 elements of an array and display them using a Loop?



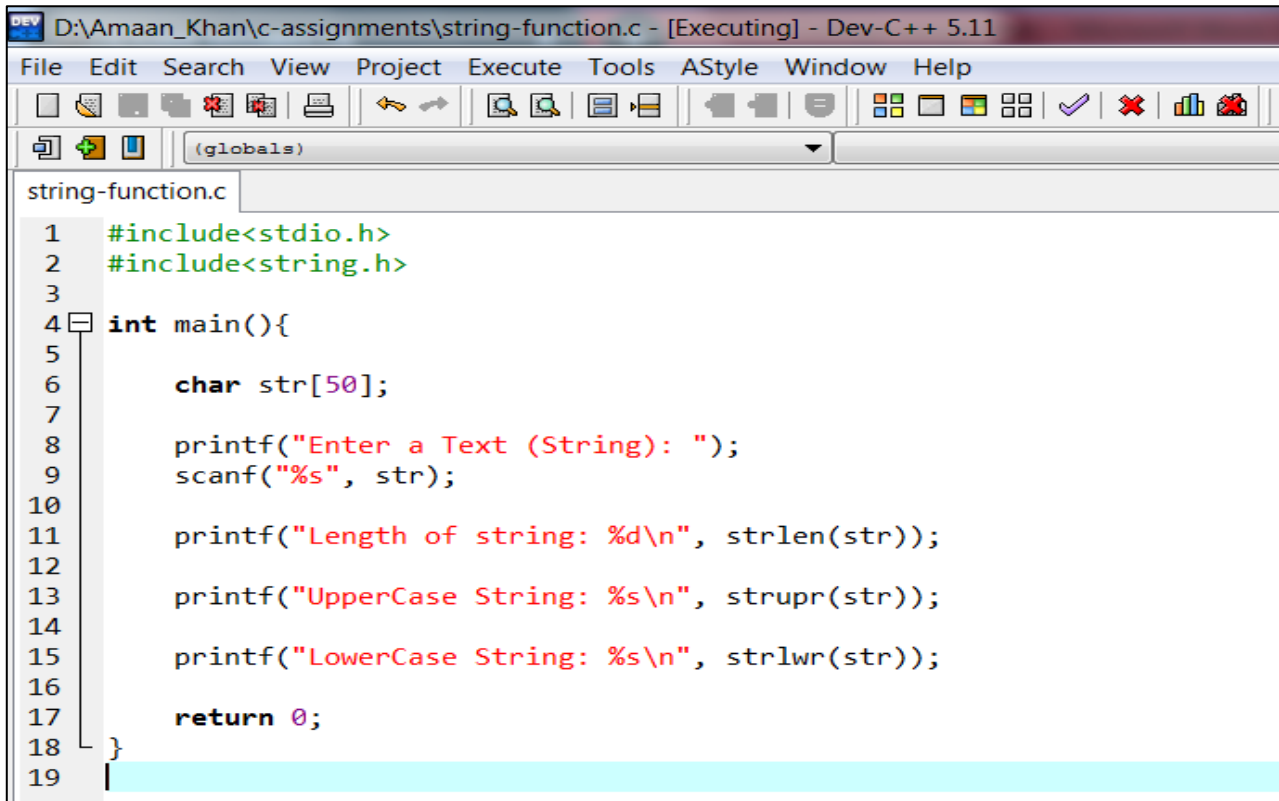
```
1  #include<stdio.h>
2  int main(){
3
4      int num[5] = {10,20,30,40,50};
5      int i;
6
7      printf("Array element are: \n");
8
9      for(i=0;i<5;i++){
10         printf("%d\n",num[i]);
11     }
12     return 0;
13 }
```



```
D:\Amaan_Khan\c-assignments\Array.exe
Array element are:
10
20
30
40
50

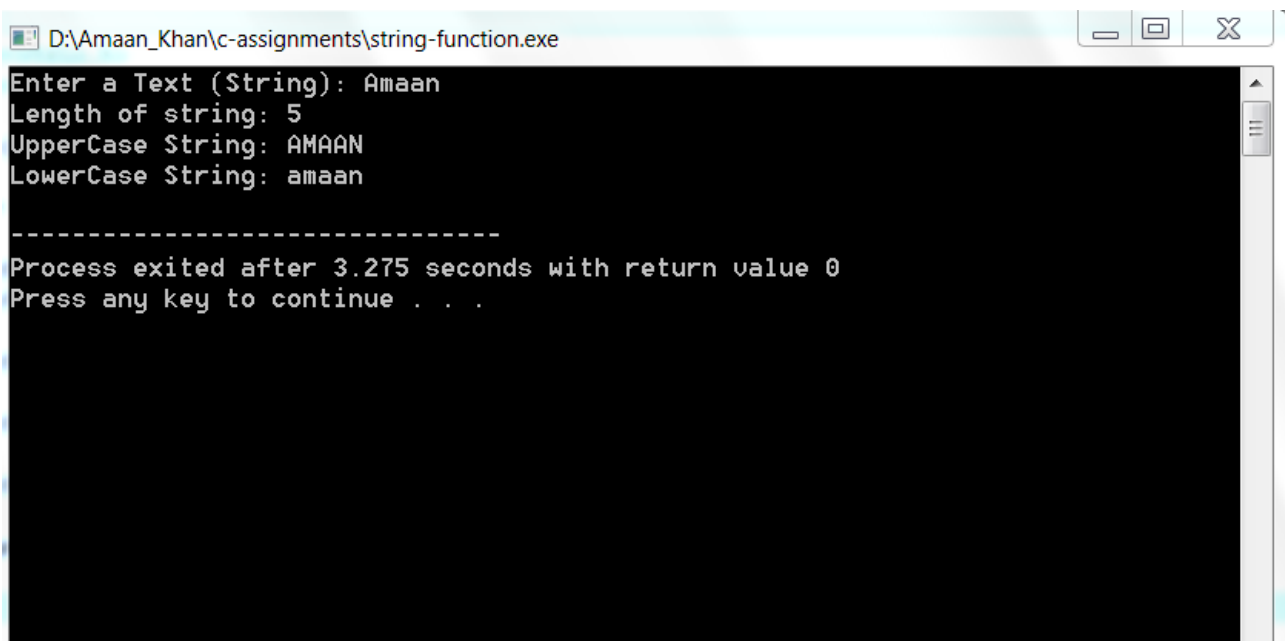
-----
Process exited after 0.01687 seconds with return value 0
Press any key to continue . . .
```

Q.5) Write a C Program to demonstrate Any Three String Function?



The screenshot shows the Dev-C++ 5.11 IDE with a file named 'string-function.c' open. The code is as follows:

```
1  #include<stdio.h>
2  #include<string.h>
3
4  int main(){
5
6      char str[50];
7
8      printf("Enter a Text (String): ");
9      scanf("%s", str);
10
11     printf("Length of string: %d\n", strlen(str));
12
13     printf("UpperCase String: %s\n",strupr(str));
14
15     printf("LowerCase String: %s\n",strlwr(str));
16
17     return 0;
18 }
19
```

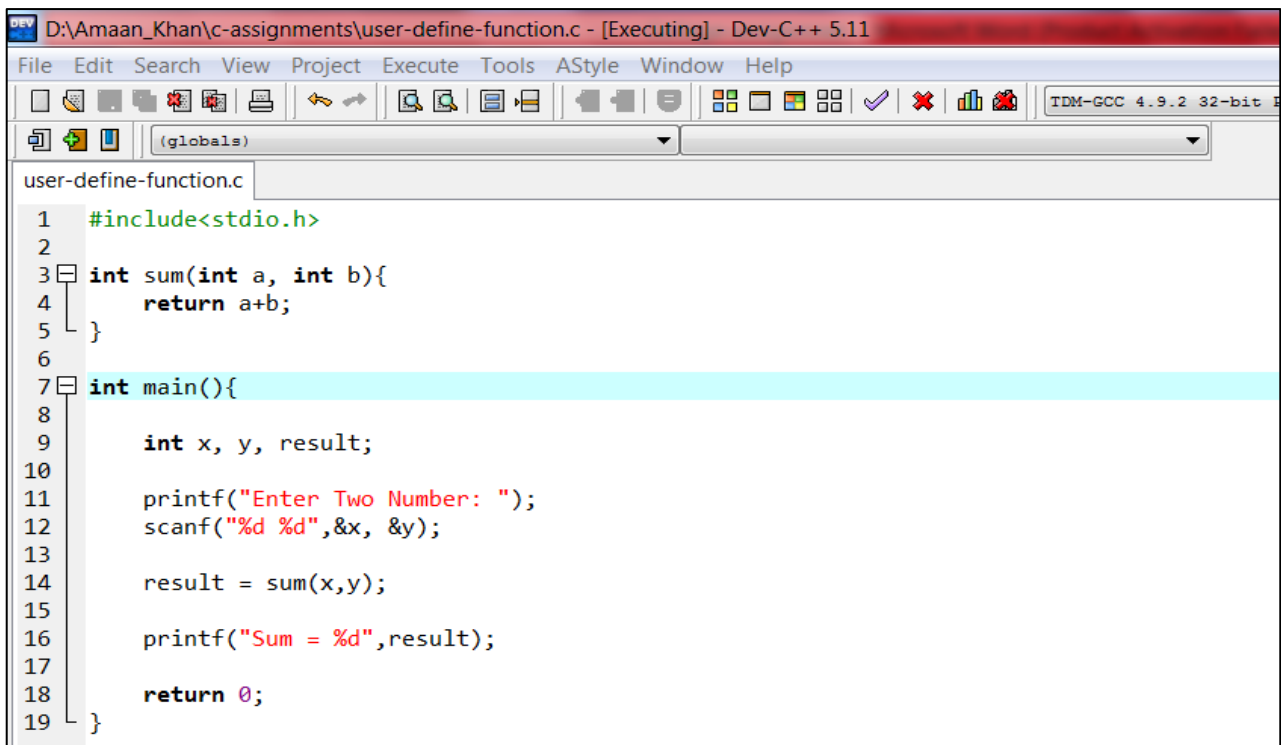


The screenshot shows a command prompt window titled 'D:\Amaan_Khan\c-assignments\string-function.exe'. The output of the program is as follows:

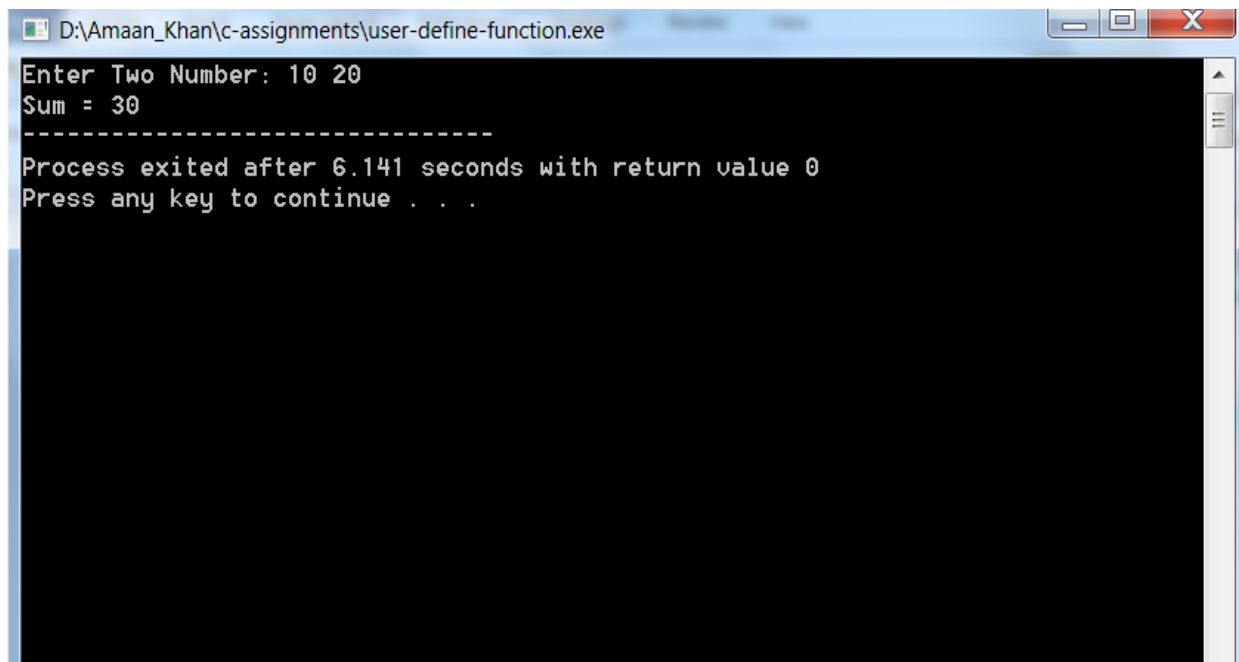
```
Enter a Text (String): Amaan
Length of string: 5
UpperCase String: AMAAN
LowerCase String: amaan

-----
Process exited after 3.275 seconds with return value 0
Press any key to continue . . .
```

Q.6) Write a C Program using user-defined function to find the sum of two number?

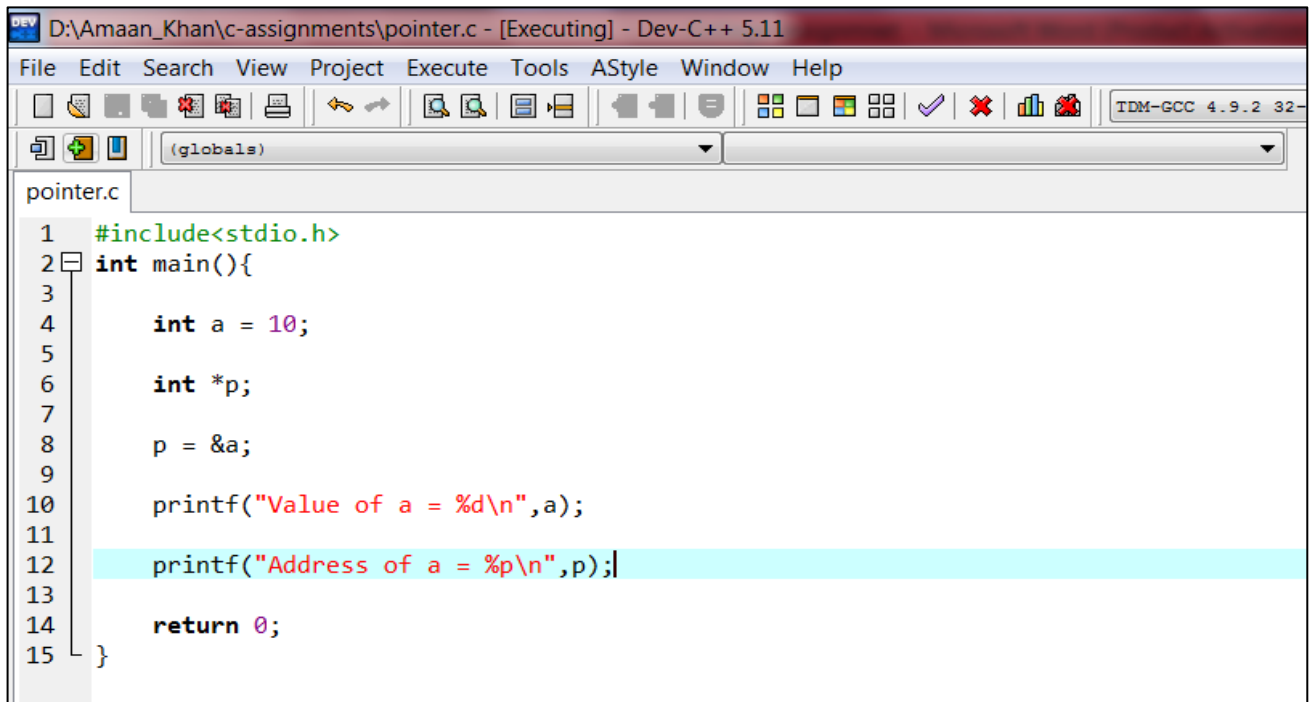


```
D:\Amaan_Khan\c-assignments\user-define-function.c - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 32-bit
(globals)
user-define-function.c
1  #include<stdio.h>
2
3  int sum(int a, int b){
4      return a+b;
5  }
6
7  int main(){
8
9      int x, y, result;
10
11     printf("Enter Two Number: ");
12     scanf("%d %d",&x, &y);
13
14     result = sum(x,y);
15
16     printf("Sum = %d",result);
17
18     return 0;
19 }
```

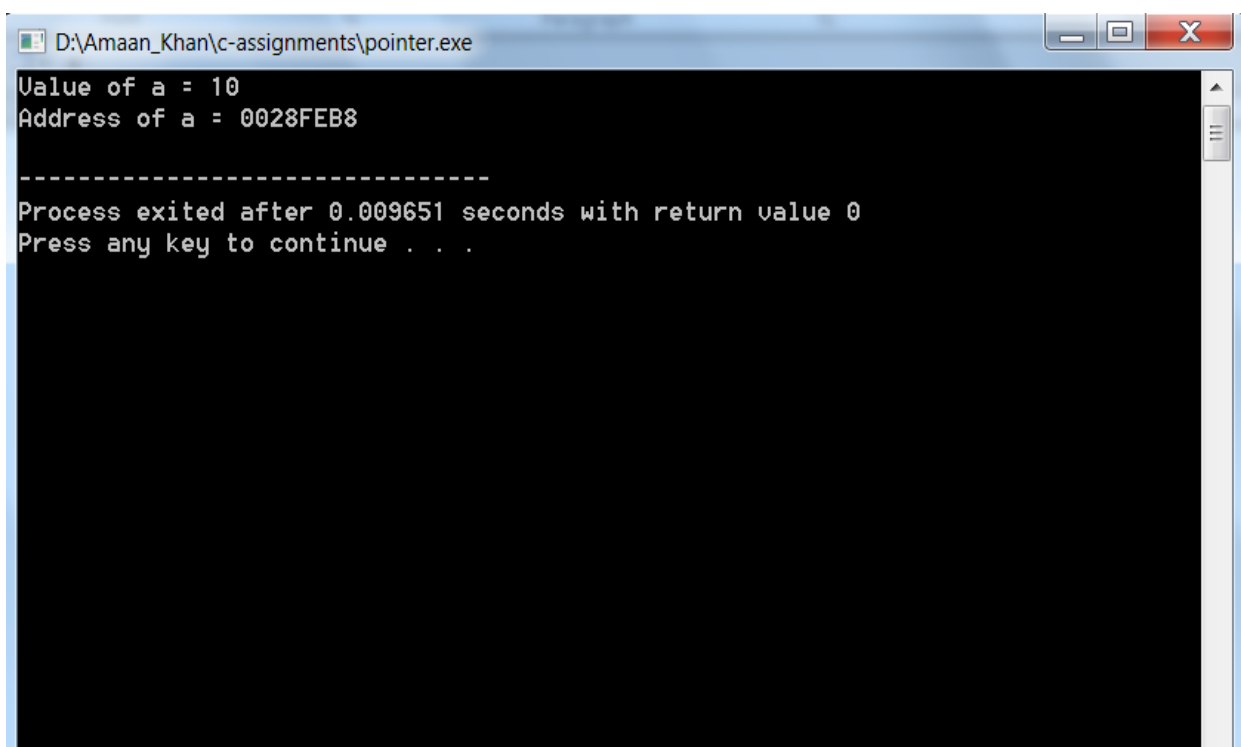


```
D:\Amaan_Khan\c-assignments\user-define-function.exe
Enter Two Number: 10 20
Sum = 30
-----
Process exited after 6.141 seconds with return value 0
Press any key to continue . . .
```

Q.7) write a C Program to display address of a variable using a POINTER?



```
1  #include<stdio.h>
2  int main(){
3
4      int a = 10;
5
6      int *p;
7
8      p = &a;
9
10     printf("Value of a = %d\n",a);
11
12     printf("Address of a = %p\n",p);
13
14     return 0;
15 }
```

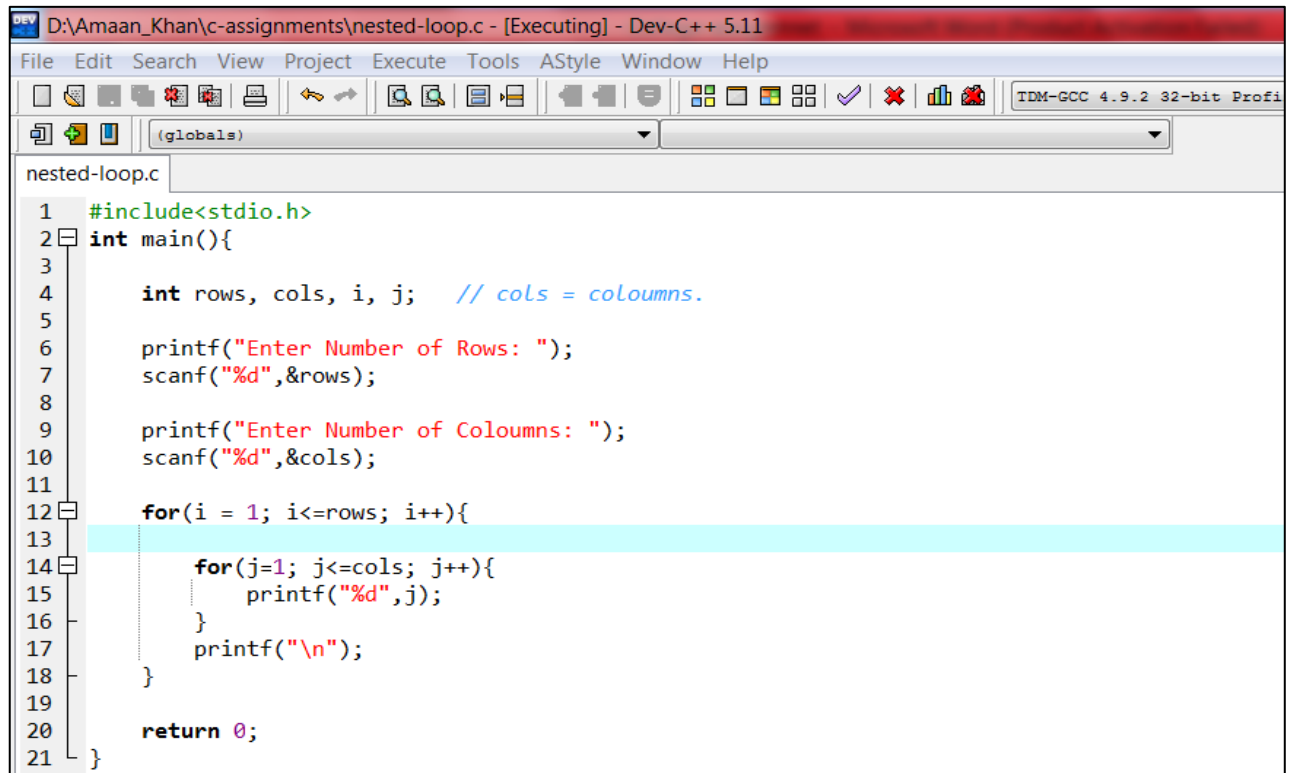


```
D:\Amaan_Khan\c-assignments\pointer.exe
Value of a = 10
Address of a = 0028FEB8

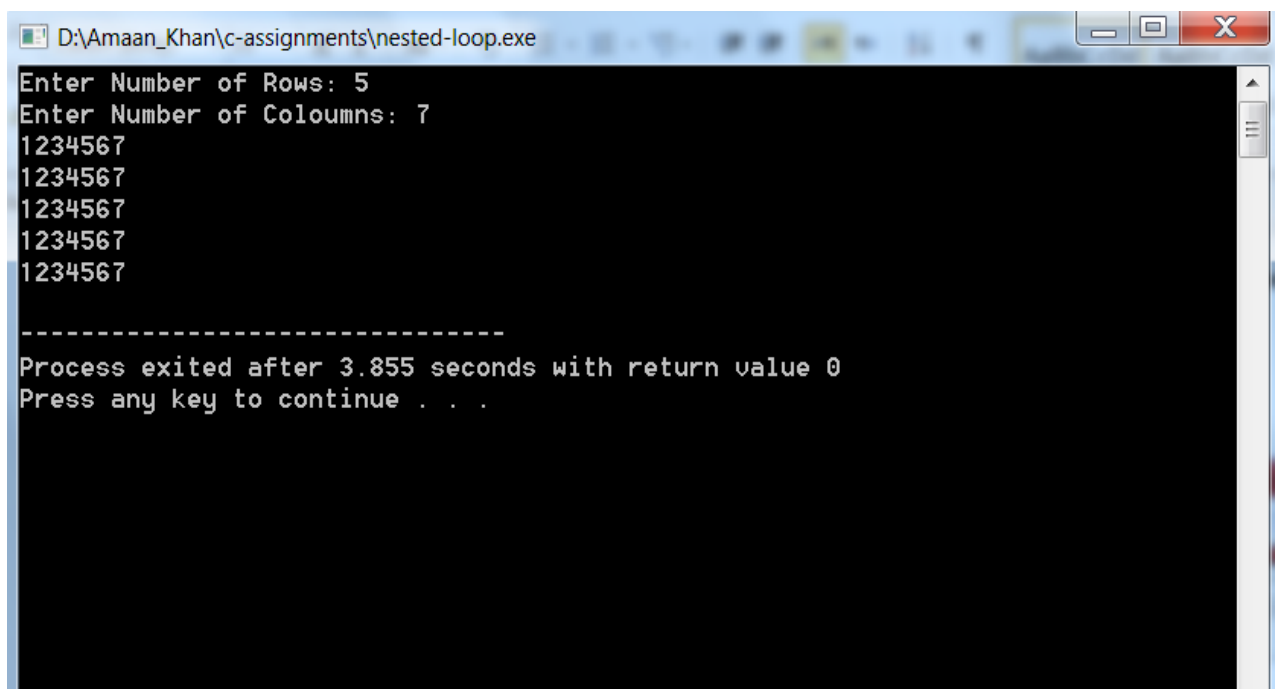
-----
Process exited after 0.009651 seconds with return value 0
Press any key to continue . . .
```

Q.8) write a C Program to print pattern using Nested Loop by taking number of rows

And Columns from the user?



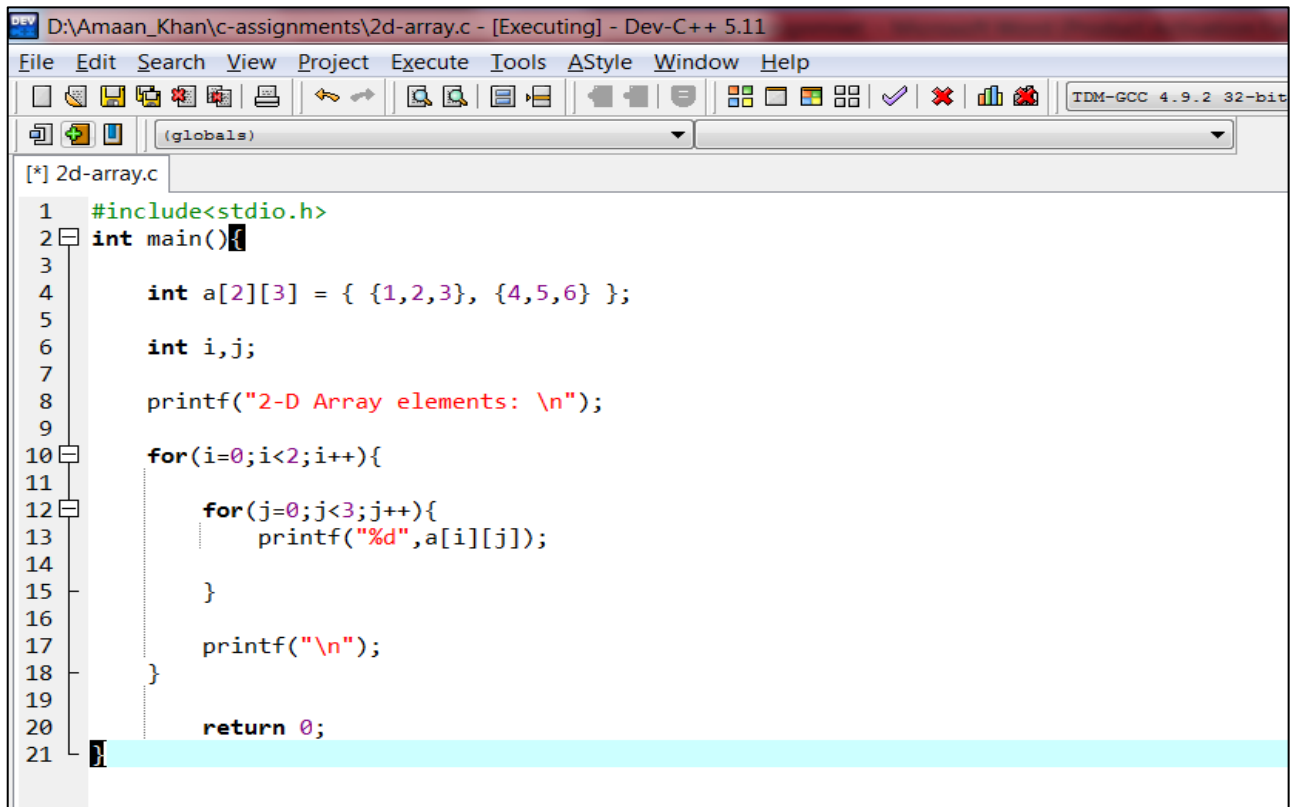
```
1 #include<stdio.h>
2 int main(){
3
4     int rows, cols, i, j;    // cols = coloumns.
5
6     printf("Enter Number of Rows: ");
7     scanf("%d",&rows);
8
9     printf("Enter Number of Coloumns: ");
10    scanf("%d",&cols);
11
12    for(i = 1; i<=rows; i++){
13
14        for(j=1; j<=cols; j++){
15            printf("%d",j);
16        }
17        printf("\n");
18    }
19
20    return 0;
21 }
```



```
D:\Amaan_Khan\c-assignments\nested-loop.exe
Enter Number of Rows: 5
Enter Number of Coloumns: 7
1234567
1234567
1234567
1234567
1234567

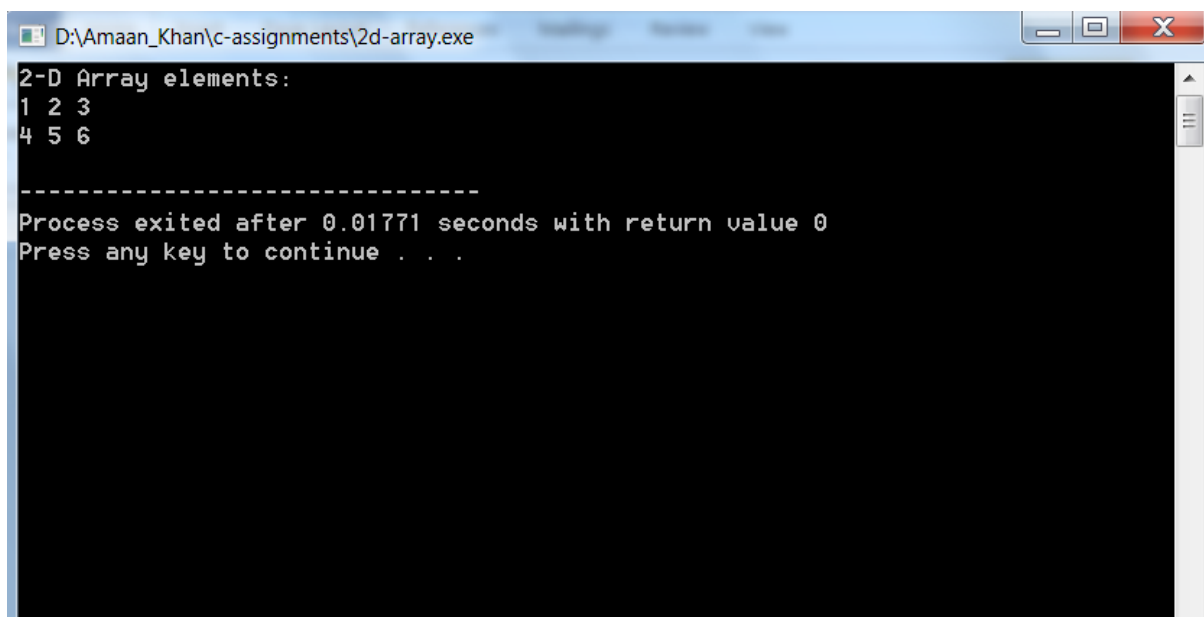
-----
Process exited after 3.855 seconds with return value 0
Press any key to continue . . .
```


Q.9) write a C Program to store and display element of 2-D Array?



The screenshot shows the Dev-C++ 5.11 IDE with a C program for a 2-D array. The program is named '2d-array.c' and is located at 'D:\Amaan_Khan\c-assignments\2d-array.c'. The code is as follows:

```
1  #include<stdio.h>
2  int main(){
3
4      int a[2][3] = { {1,2,3}, {4,5,6} };
5
6      int i,j;
7
8      printf("2-D Array elements: \n");
9
10     for(i=0;i<2;i++){
11
12         for(j=0;j<3;j++){
13             printf("%d",a[i][j]);
14         }
15
16         printf("\n");
17     }
18
19     return 0;
20 }
21
```

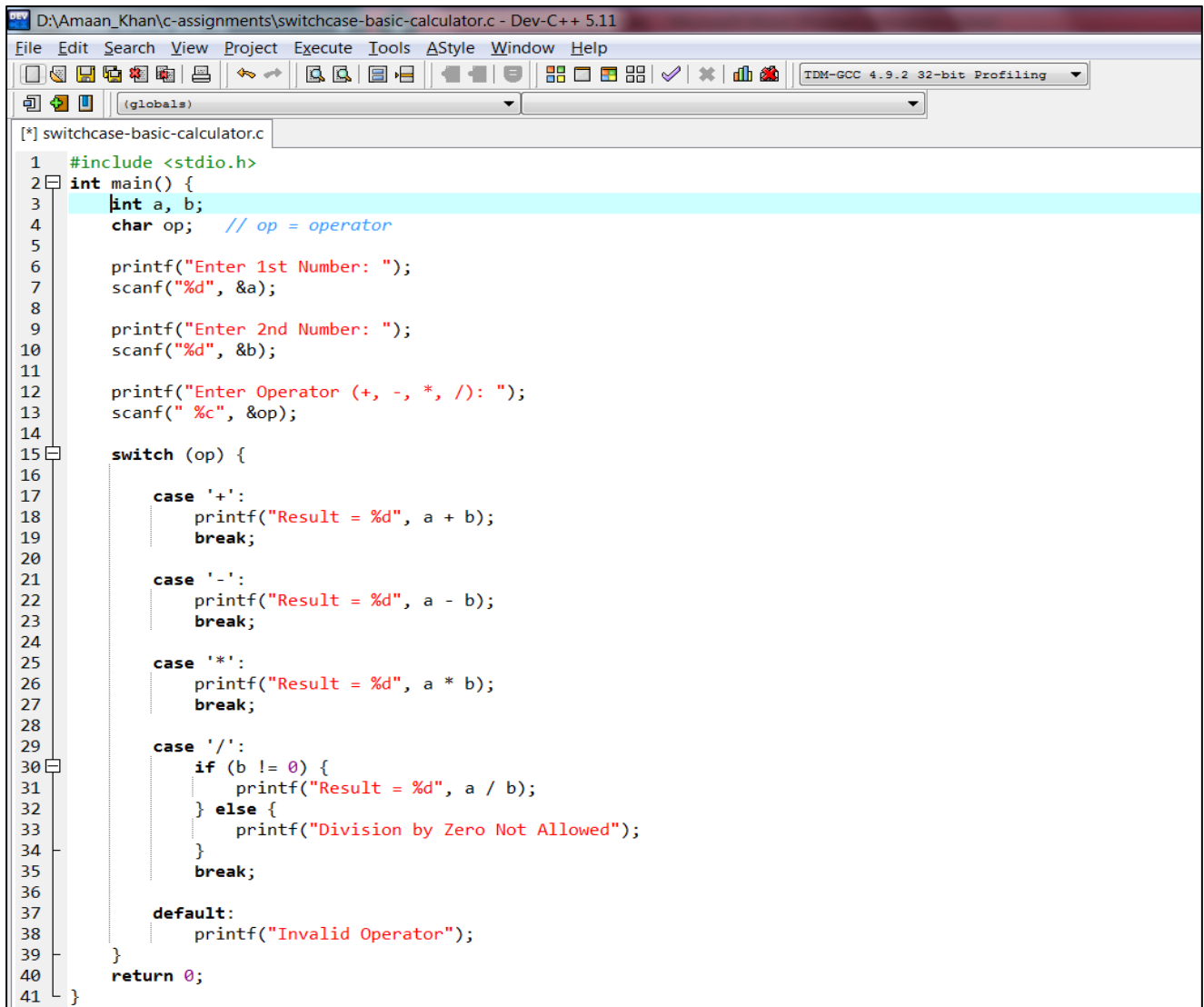


The screenshot shows the output of the program execution. The output is displayed in a window titled 'D:\Amaan_Khan\c-assignments\2d-array.exe'. The output is as follows:

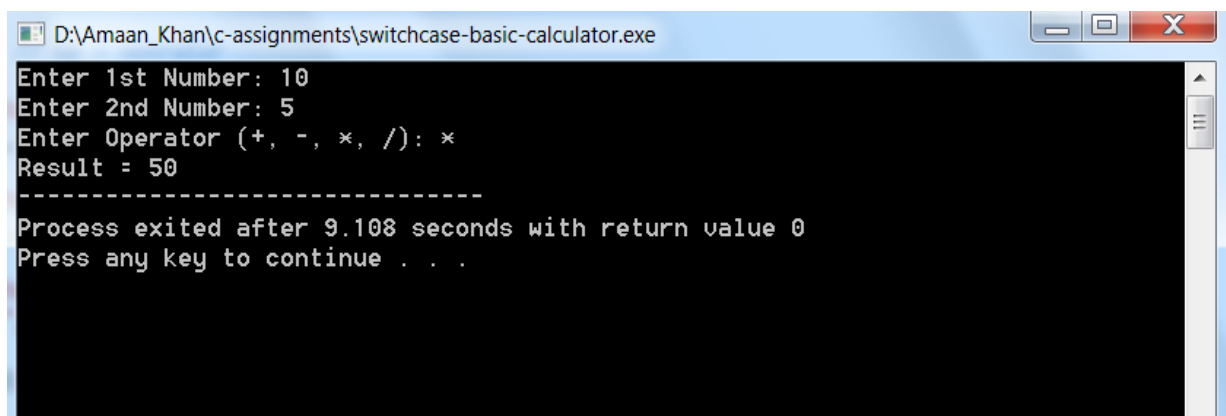
```
2-D Array elements:
1 2 3
4 5 6

-----
Process exited after 0.01771 seconds with return value 0
Press any key to continue . . .
```

**Q.10) write a C Program to Perform basic arithmetic operation using switch case.
(Basic Calculator)?**



```
1  #include <stdio.h>
2  int main() {
3      int a, b;
4      char op; // op = operator
5
6      printf("Enter 1st Number: ");
7      scanf("%d", &a);
8
9      printf("Enter 2nd Number: ");
10     scanf("%d", &b);
11
12     printf("Enter Operator (+, -, *, /): ");
13     scanf(" %c", &op);
14
15     switch (op) {
16     case '+':
17         printf("Result = %d", a + b);
18         break;
19     case '-':
20         printf("Result = %d", a - b);
21         break;
22     case '*':
23         printf("Result = %d", a * b);
24         break;
25     case '/':
26         if (b != 0) {
27             printf("Result = %d", a / b);
28         } else {
29             printf("Division by Zero Not Allowed");
30         }
31         break;
32     default:
33         printf("Invalid Operator");
34     }
35     return 0;
36 }
```



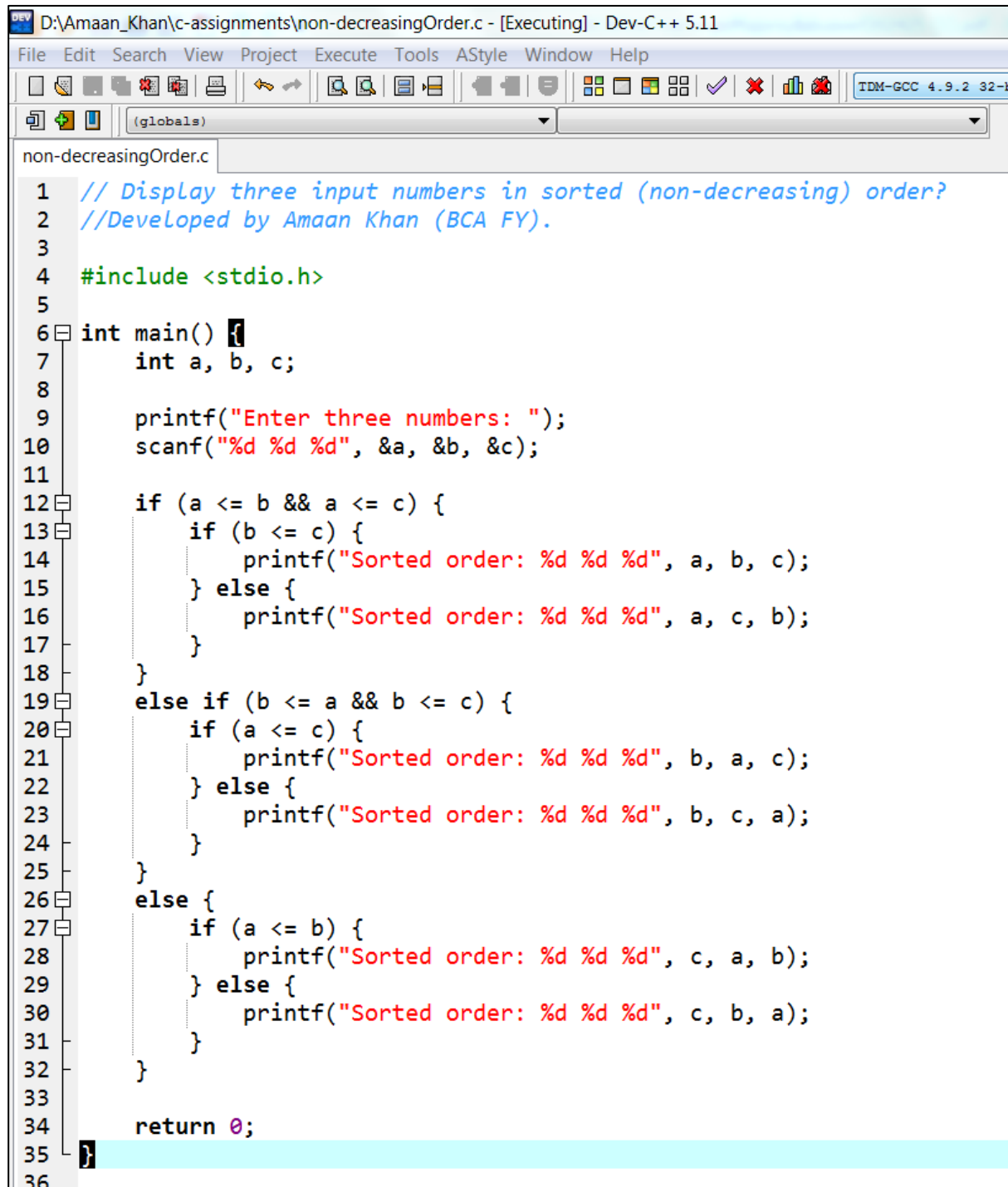
```
D:\Amaan_Khan\c-assignments\switchcase-basic-calculator.exe
Enter 1st Number: 10
Enter 2nd Number: 5
Enter Operator (+, -, *, /): *
Result = 50
-----
Process exited after 9.108 seconds with return value 0
Press any key to continue . . .
```

Q.11) 1. Converting degrees Celsius to Fahrenheit and vice versa?

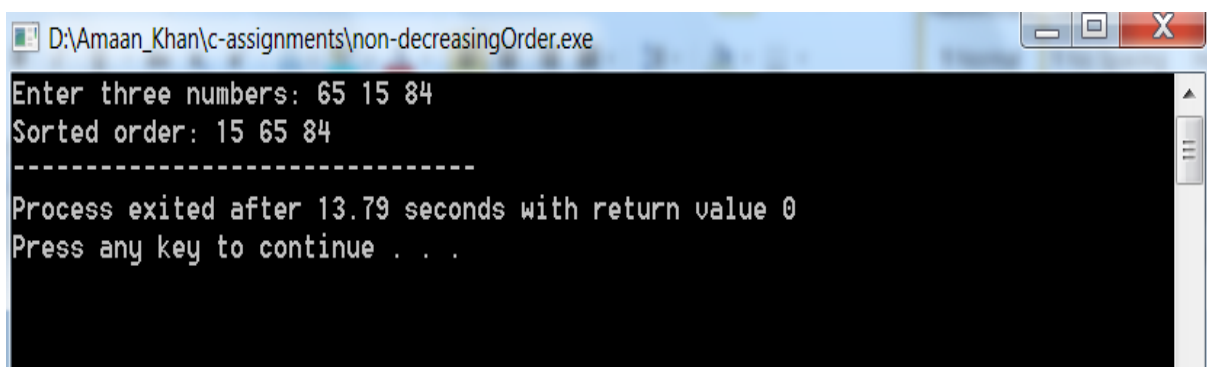
```
DEV D:\Amaan_Khan\c-assignments\fahrenheitTocelsius.c - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
[*] fahrenheitTocelsius.c
1 // assignment for conveting celsius to farenheit.
2 // Developed by Amaan Khan(BCA Fy) .|
3 #include<stdio.h>
4 int main(){
5     int user_choice;
6     float fahrenheit;
7     float celsius;
8
9     printf("Hello, There\n");
10    printf("Welcome to Temperature Converter Program.\n");
11    printf("Press: 1 To convert Celsius to Fahrenheit\n");
12    printf("Press: 2 To convert Fahrenheit to Celsius\n");
13    printf("Enter Your Choice: ");
14    scanf("%d",&user_choice);
15
16
17    printf("You chose option: %d\n",user_choice);
18    if(user_choice==1){
19        printf("Enter Celsius Input: ");
20        scanf("%f",&celsius);
21
22        fahrenheit = ( celsius * 9.0/5) + 32;
23        printf("your result = %.2f", fahrenheit);
24    }
25    else if(user_choice==2){
26        printf("Enter you Farenheit Input: ");
27        scanf("%f", &fahrenheit);
28
29
30
31        celsius = (fahrenheit - 32) * 5.0/9;
32        printf("Your Result Is: %.2f", celsius);
33    }
34    else{
35        printf("Invalid choice. Please Run Program again");
36    }
37
38    printf("\nThank Your for using Convert programme");
39    return 0;
40 }
41
42
```

```
D:\Amaan_Khan\c-assignments\fahrenheitTocelsius.exe
Hello, There
Welcome to Temperature Converter Program.
Press: 1 To convert Celsius to Fahrenheit
Press: 2 To convert Fahrenheit to Celsius
Enter Your Choice: 2
You chose option: 2
Enter you Farenheit Input: 212
Your Result Is: 100.00
Thank Your for using Convert programme
-----
Process exited after 8.776 seconds with return value 0
Press any key to continue . . .
```

Q.12) 2.Display three input numbers in sorted (non-decreasing) order?



```
1 // Display three input numbers in sorted (non-decreasing) order?
2 //Developed by Amaan Khan (BCA FY).
3
4 #include <stdio.h>
5
6 int main() {
7     int a, b, c;
8
9     printf("Enter three numbers: ");
10    scanf("%d %d %d", &a, &b, &c);
11
12    if (a <= b && a <= c) {
13        if (b <= c) {
14            printf("Sorted order: %d %d %d", a, b, c);
15        } else {
16            printf("Sorted order: %d %d %d", a, c, b);
17        }
18    }
19    else if (b <= a && b <= c) {
20        if (a <= c) {
21            printf("Sorted order: %d %d %d", b, a, c);
22        } else {
23            printf("Sorted order: %d %d %d", b, c, a);
24        }
25    }
26    else {
27        if (a <= b) {
28            printf("Sorted order: %d %d %d", c, a, b);
29        } else {
30            printf("Sorted order: %d %d %d", c, b, a);
31        }
32    }
33
34    return 0;
35 }
```



```
D:\Amaan_Khan\c-assignments\non-decreasingOrder.exe
Enter three numbers: 65 15 84
Sorted order: 15 65 84
-----
Process exited after 13.79 seconds with return value 0
Press any key to continue . . .
```

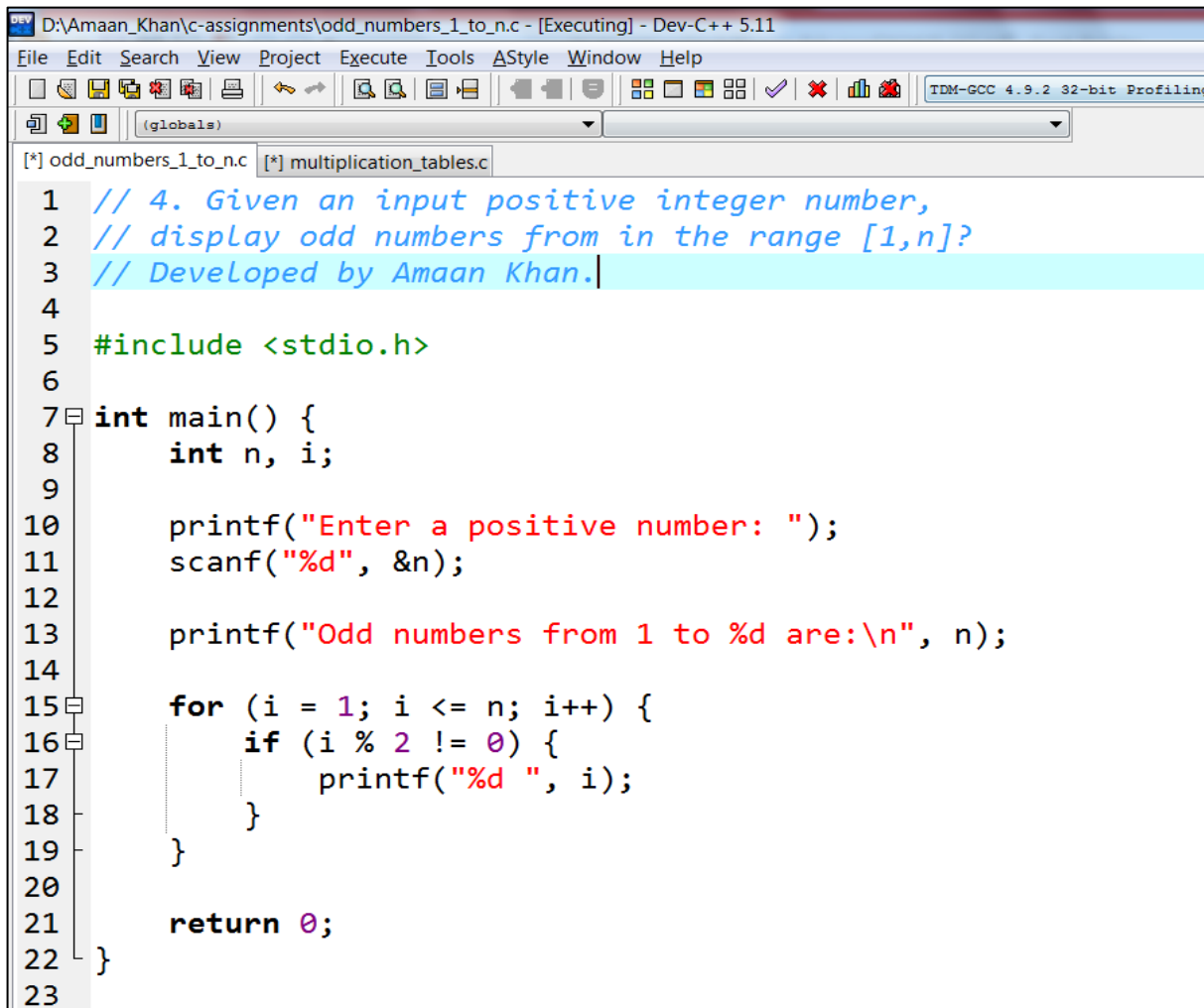
Q.13) 3. Given a positive integer value n (≥ 0) display number, square and cube of numbers from 1 to n in a tabular format?

```
D:\Amaan_Khan\c-assignments\SquareAndCubeInTableFormat.c - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
SquareAndCubeInTableFormat.c
1 //3. Given a positive integer value n (>= 0) display number,
2 // square and cube of numbers from 1 to n in a tabular format?
3 // Developed by Amaan Khan(BCA FY).
4
5 #include <stdio.h>
6
7 int main() {
8     int number, i;
9
10    printf("Enter value for number for printing Square & Cube: ");
11    scanf("%d", &number);
12
13    printf("Number\tSquare\tCube\n");
14
15    for (i = 1; i <= number; i++) {
16        printf("%d\t%d\t%d\n", i, i*i, i*i*i);
17    }
18
19    return 0;
20 }
```

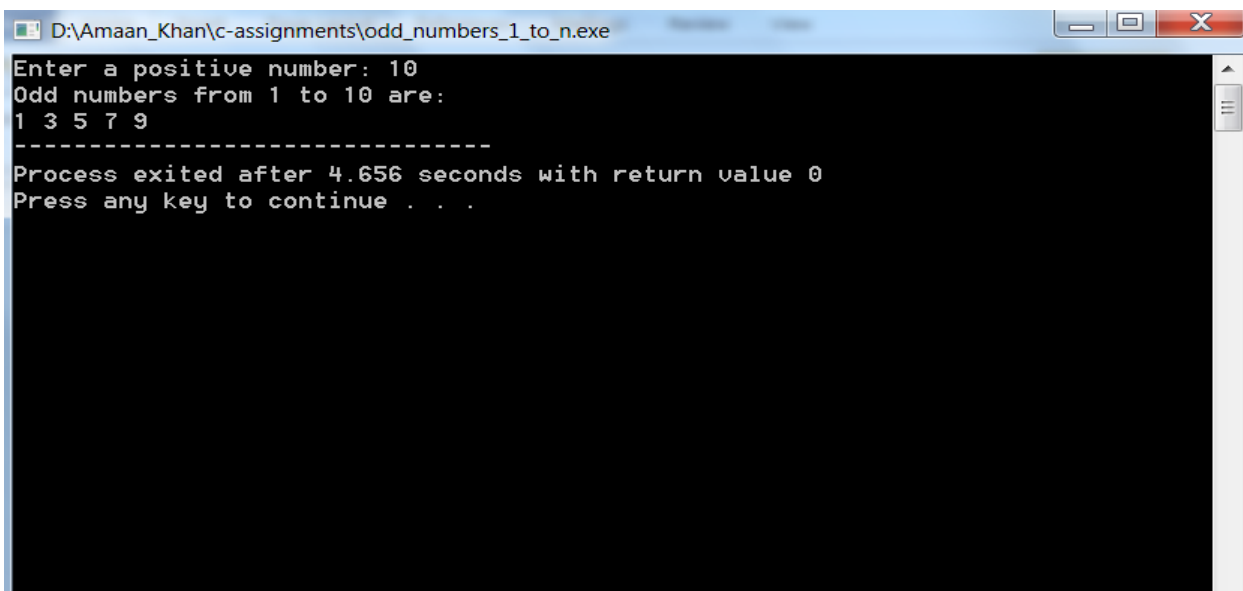
```
D:\Amaan_Khan\c-assignments\SquareAndCubeInTableFormat.exe
Enter value for number for printing Square & Cube: 7
Number Square Cube
1      1      1
2      4      8
3      9     27
4     16     64
5     25    125
6     36    216
7     49    343

-----
Process exited after 7.577 seconds with return value 0
Press any key to continue . . .
```

Q.14) 4. Given an input positive integer number, display odd numbers from in the range [1,n]?



```
1 // 4. Given an input positive integer number,  
2 // display odd numbers from in the range [1,n]?  
3 // Developed by Amaan Khan.  
4  
5 #include <stdio.h>  
6  
7 int main() {  
8     int n, i;  
9  
10    printf("Enter a positive number: ");  
11    scanf("%d", &n);  
12  
13    printf("Odd numbers from 1 to %d are:\n", n);  
14  
15    for (i = 1; i <= n; i++) {  
16        if (i % 2 != 0) {  
17            printf("%d ", i);  
18        }  
19    }  
20  
21    return 0;  
22 }  
23
```



```
D:\Amaan_Khan\c-assignments\odd_numbers_1_to_n.exe  
Enter a positive number: 10  
Odd numbers from 1 to 10 are:  
1 3 5 7 9  
-----  
Process exited after 4.656 seconds with return value 0  
Press any key to continue . . .
```

Q15) 5. Display first mathematical tables, each table up to 10 rows? Generalize this to display first n (> 0) mathematical tables up to m (m > 0) rows?

```
D:\Amaan_Khan\c-assignments\multiplication_tables.c - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
[*] multiplication_tables.c
1 // 5. Display first mathematical tables, each table up to 10 rows?
2 //Generalise this to display first n (> 0)
3 //mathematical tables up to m (m > 0) rows?
4
5 // Developed by Amaan Khan (BCA FY)
6
7 #include <stdio.h>
8
9 int main() {
10     int n, m, i, j;
11
12     printf("Enter number of tables (n): ");
13     scanf("%d", &n);
14
15     printf("Enter number of rows (m): ");
16     scanf("%d", &m);
17
18     for (i = 1; i <= n; i++) {
19         printf("\nTable of %d\n", i);
20
21         for (j = 1; j <= m; j++) {
22             printf("%d x %d = %d\n", i, j, i * j);
23         }
24     }
25
26     return 0;
27 }
28
```

```
D:\Amaan_Khan\c-assignments\multiplication_tables.exe
Enter number of tables (n): 2
Enter number of rows (m): 10

Table of 1
1 x 1 = 1
1 x 2 = 2
1 x 3 = 3
1 x 4 = 4
1 x 5 = 5
1 x 6 = 6
1 x 7 = 7
1 x 8 = 8
1 x 9 = 9
1 x 10 = 10

Table of 2
2 x 1 = 2
2 x 2 = 4
2 x 3 = 6
2 x 4 = 8
2 x 5 = 10
2 x 6 = 12
2 x 7 = 14
2 x 8 = 16
2 x 9 = 18
```