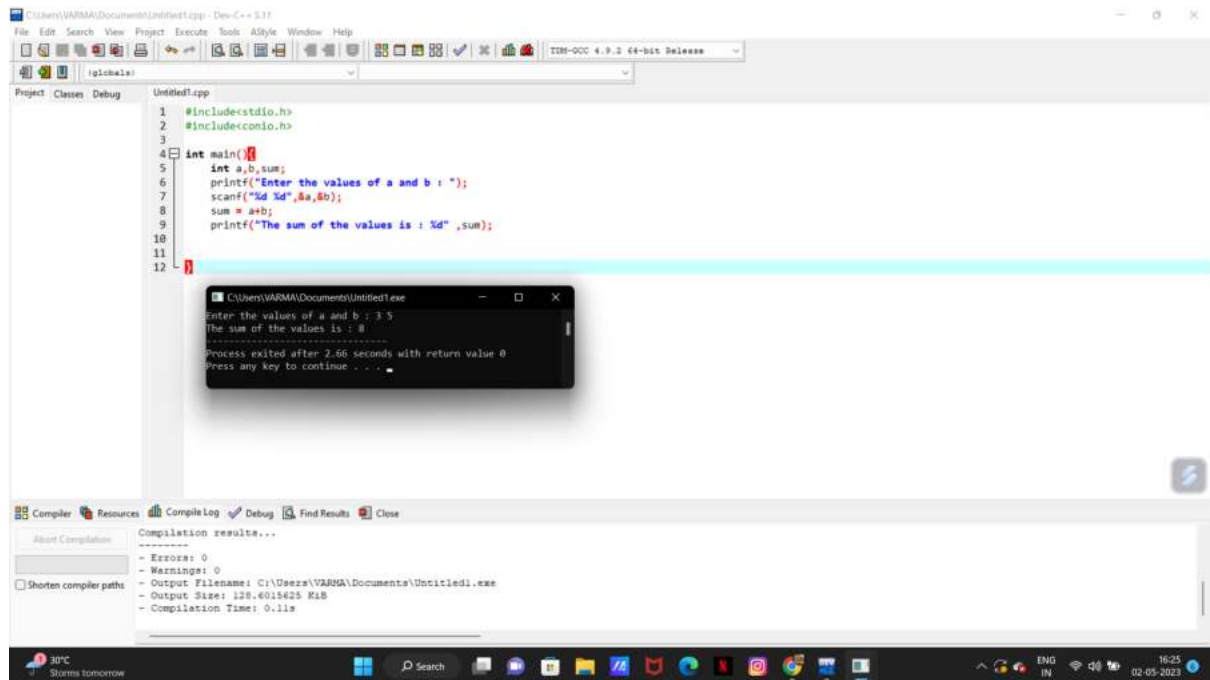


## 1. ARITHMETIC OPERATION IN C USING DYNAMIC INITIALIZATION



The screenshot shows the Dev-C++ IDE with a C program for addition. The code is as follows:

```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main()
5 {
6     printf("Enter the values of a and b : ");
7     scanf("%d %d",&a,&b);
8     sum = a+b;
9     printf("The sum of the values is : %d",sum);
10 }
11
12
```

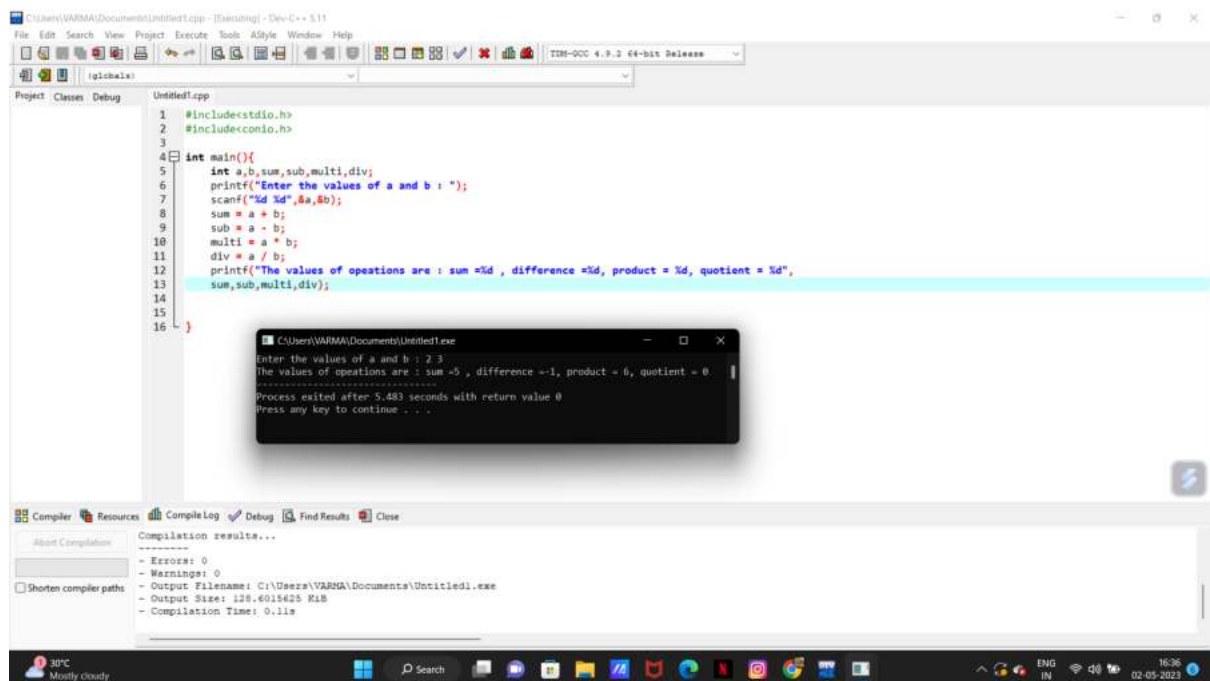
The execution output window shows the following text:

```
C:\Users\VARMA\Documents\Untitled1.exe
Enter the values of a and b : 3 5
The sum of the values is : 8
-----
Process exited after 2.66 seconds with return value 0
Press any key to continue . . .
```

The compiler output window shows the following text:

```
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled1.exe
- Output Size: 128.6015625 KiB
- Compilation Time: 0.11s
```

## 2. ARITHMETIC OPERATIONS IN C USING DYNAMIC INITIALIZATION



The screenshot shows the Dev-C++ IDE with a C program for multiple arithmetic operations. The code is as follows:

```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main()
5 {
6     printf("Enter the values of a and b : ");
7     scanf("%d %d",&a,&b);
8     sum = a + b;
9     sub = a - b;
10    multi = a * b;
11    div = a / b;
12    printf("The values of operations are : sum = %d , difference = %d , product = %d , quotient = %d",
13           sum,sub,multi,div);
14 }
15
16
```

The execution output window shows the following text:

```
C:\Users\VARMA\Documents\Untitled1.exe
Enter the values of a and b : 2 3
The values of operations are : sum = 5 , difference = -1 , product = 6 , quotient = 0
-----
Process exited after 5.483 seconds with return value 0
Press any key to continue . . .
```

The compiler output window shows the following text:

```
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled1.exe
- Output Size: 128.6015625 KiB
- Compilation Time: 0.11s
```

### 3. ARITHMETIC OPERATION IN C USING STATIC INITIALIZATION

The screenshot shows a C program in a code editor. The program includes `stdio.h` and `conio.h`. In the `main` function, variables `a` and `b` are initialized to 10 and 20 respectively. Then, `sum`, `subtraction`, `multiplication`, and `division` are calculated. The results are printed using `printf`. A console window shows the output: "The values of operations are : sum =10 , difference =-10, product = 200, quotient = 0". The compiler window shows 0 errors and 0 warnings.

```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main(){
5     int a,b,sum,subtraction,multiplication,division;
6     a = 10;
7     b = 20;
8     sum = a + b;
9     subtraction = a - b;
10    multiplication = a * b;
11    division = a / b;
12    printf("The values of operations are : sum =%d , difference =%d, product = %d, quotient = %d",
13    sum,subtraction,multiplication,division);
14    public int _cdecl printf(const char * __restrict __format, ...)
15
16 }
```

Console Output:

```
C:\Users\VARMA\Documents\Untitled1.exe
The values of operations are : sum =10 , difference =-10, product = 200, quotient = 0
Process exited after 0.000945 seconds with return value 0
Press any key to continue . . .
```

Compilation results:

```
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled1.exe
- Output Size: 128.431640625 KiB
- Compilation Time: 0.13s
```

### 4.C PROGRAM TO CHECK THE GIVEN NUMBERS IS ODD OR EVEN

The screenshot shows a C program in a code editor. The program includes `stdio.h` and `conio.h`. In the `main` function, a variable `a` is declared. The program prompts the user to enter a number using `scanf`. It then checks if the number is even or odd using an `if` statement. The results are printed using `printf`. A console window shows the output: "Enter the elements : 5", "The given number is odd number". The compiler window shows 0 errors and 0 warnings.

```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main(){
5     int a;
6     printf("Enter the elements : ");
7     scanf("%d",&a);
8     public int _cdecl scanf(const char * __restrict __format, ...)
9     if(a%2==0){
10         printf("The given number is an even number");
11     }else if(a%2!=0){
12         printf("The given number is neither even are odd");
13     }else{
14         printf("The given number is odd number");
15     }
16 }
17 }
```

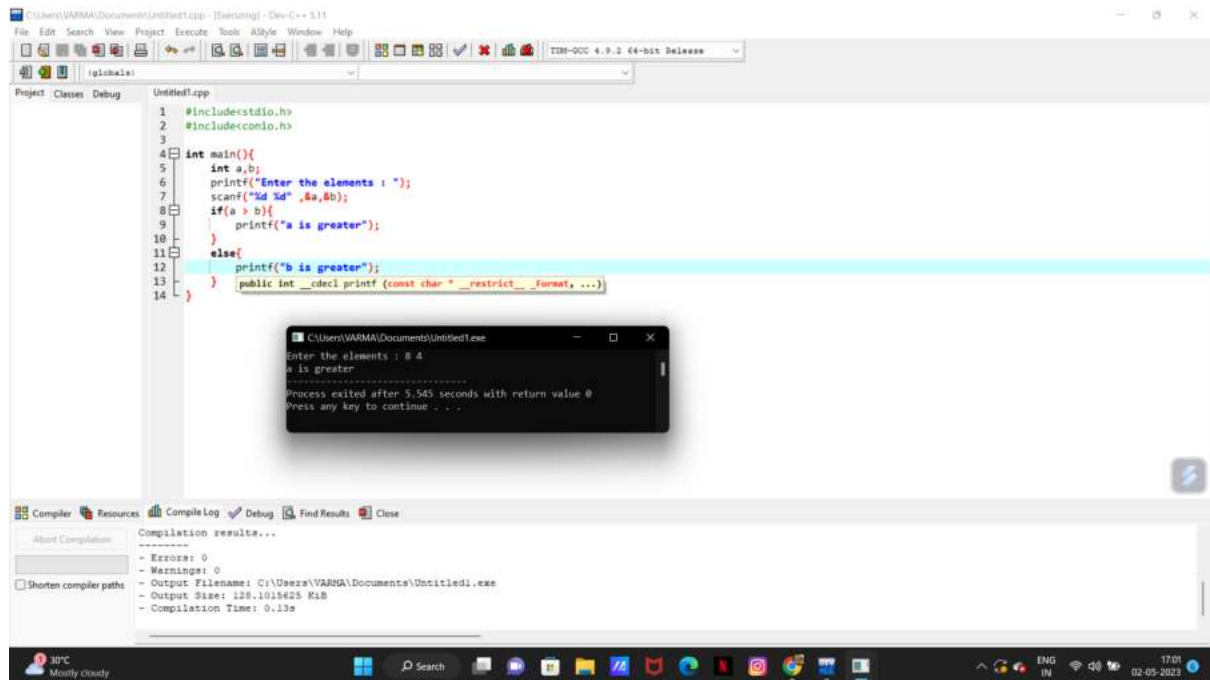
Console Output:

```
C:\Users\VARMA\Documents\Untitled1.exe
Enter the elements : 5
The given number is odd number
Process exited after 1.519 seconds with return value 0
Press any key to continue . . .
```

Compilation results:

```
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled1.exe
- Output Size: 128.6015625 KiB
- Compilation Time: 0.13s
```

## 5.CHEKING BIGGER VALUE BETWEEN TWO VALUES



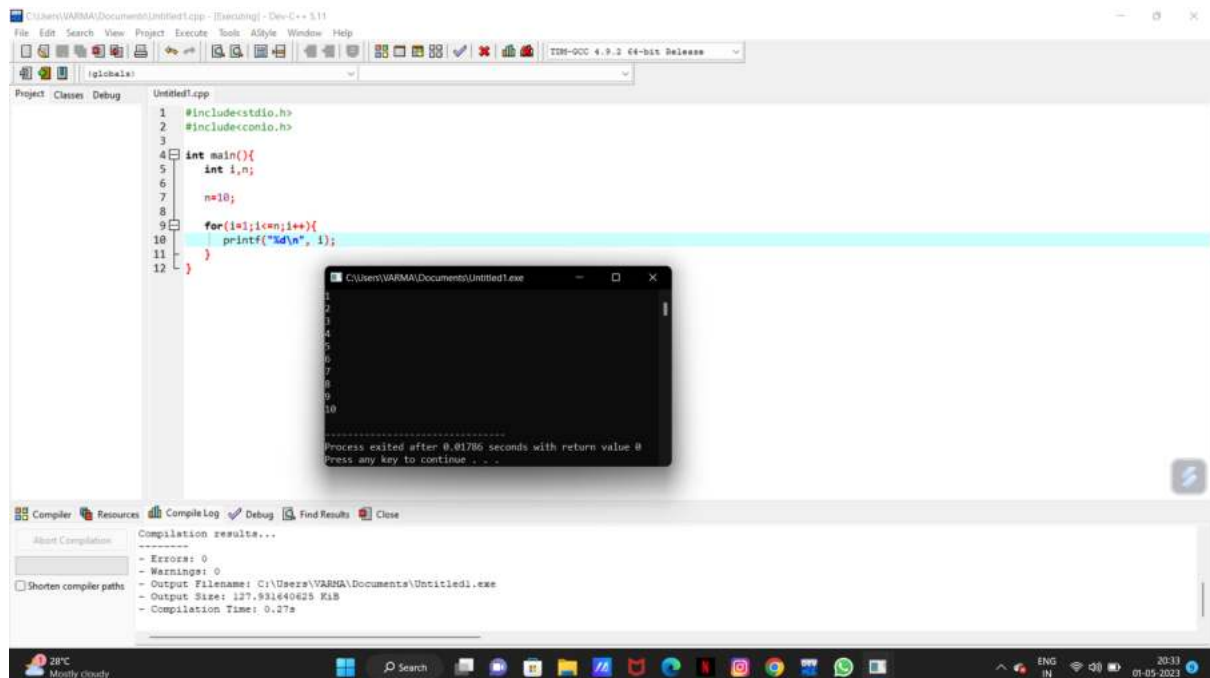
```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main(){
5     int a,b;
6     printf("Enter the elements : ");
7     scanf("%d %d", &a,&b);
8     if(a > b){
9         printf("a is greater");
10    }
11    else{
12        printf("b is greater");
13    }
14 }
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled1.exe
- Output Size: 128.1015625 KiB
- Compilation Time: 0.13s

Enter the elements : 8 4  
a is greater  
Process exited after 5.545 seconds with return value 0  
Press any key to continue . . .

## 6.PRINT NUMBERS FROM 1 TO 10



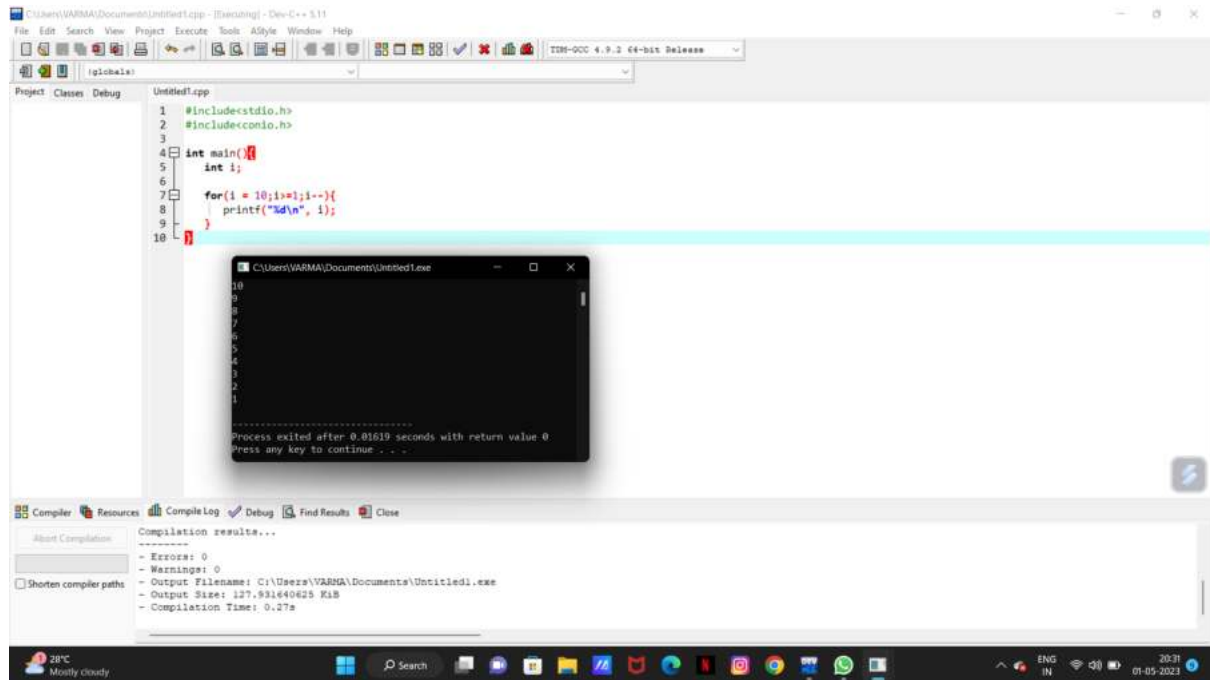
```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main(){
5     int i,n;
6
7     n=10;
8
9     for(i=1;i<=n;i++){
10        printf("%d\n", i);
11    }
12 }
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled1.exe
- Output Size: 127.931640625 KiB
- Compilation Time: 0.27s

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
Process exited after 0.01786 seconds with return value 0  
Press any key to continue . . .

## 7.PRINT NUMBERS FROM 10 TO 1



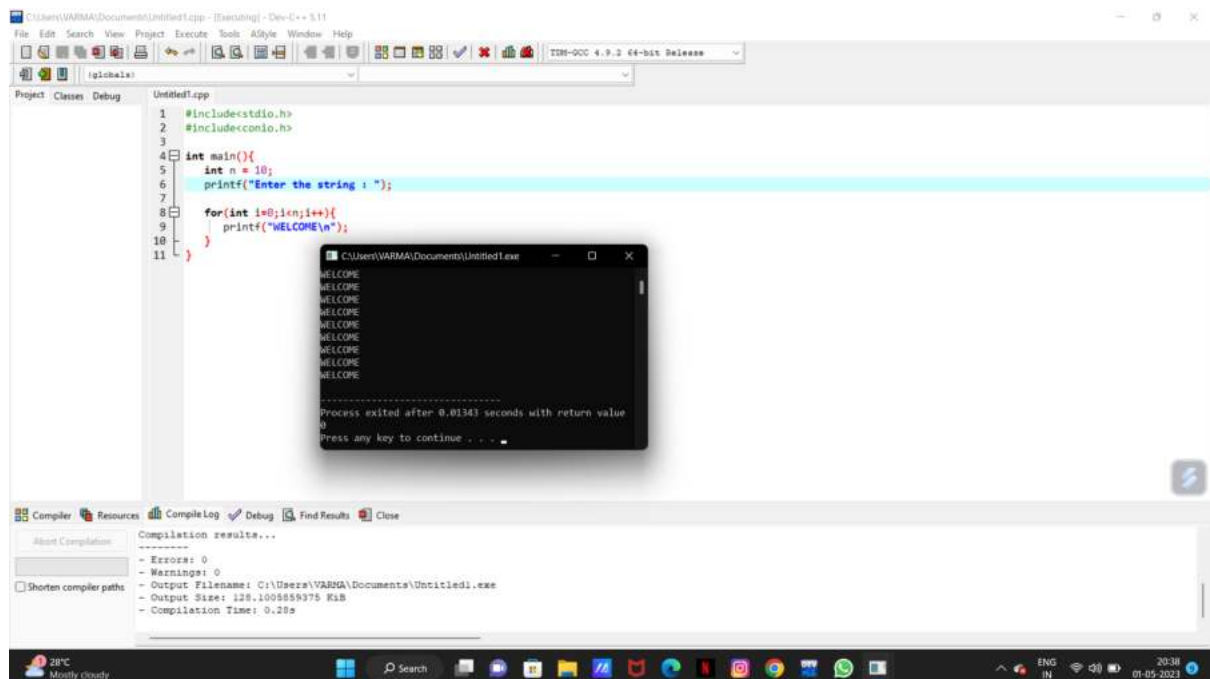
```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main()
5 {
6     int i;
7     for(i = 10; i >= 1; i--){
8         printf("%d\n", i);
9     }
10 }
```

Process exited after 0.01619 seconds with return value 0  
Press any key to continue . . .

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled1.exe
- Output Size: 127,931,640,625 KiB
- Compilation Time: 0.27s

## 8.PRINT STATEMENT “WELCOME” USING LOOPING



```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main()
5 {
6     int n = 10;
7     printf("Enter the string : ");
8     for(int i=0; i<n; i++){
9         printf("WELCOME\n");
10     }
11 }
```

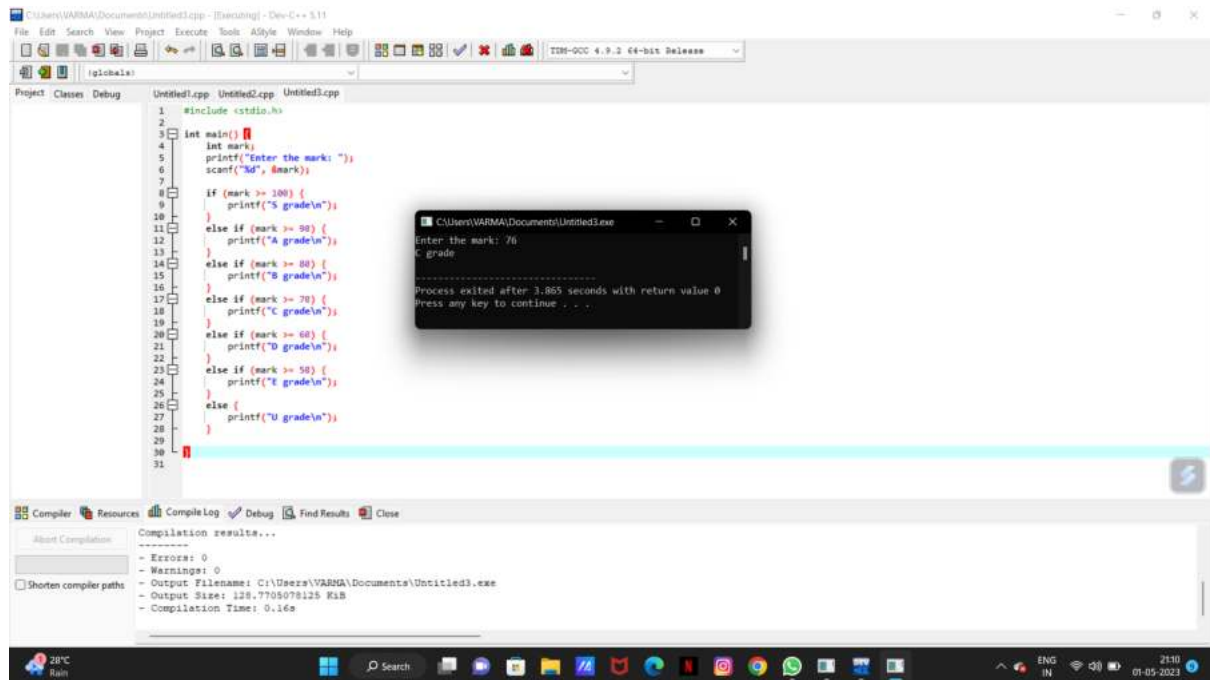
WELCOME  
WELCOME  
WELCOME  
WELCOME  
WELCOME  
WELCOME  
WELCOME  
WELCOME  
WELCOME  
WELCOME

Process exited after 0.01343 seconds with return value 0  
Press any key to continue . . .

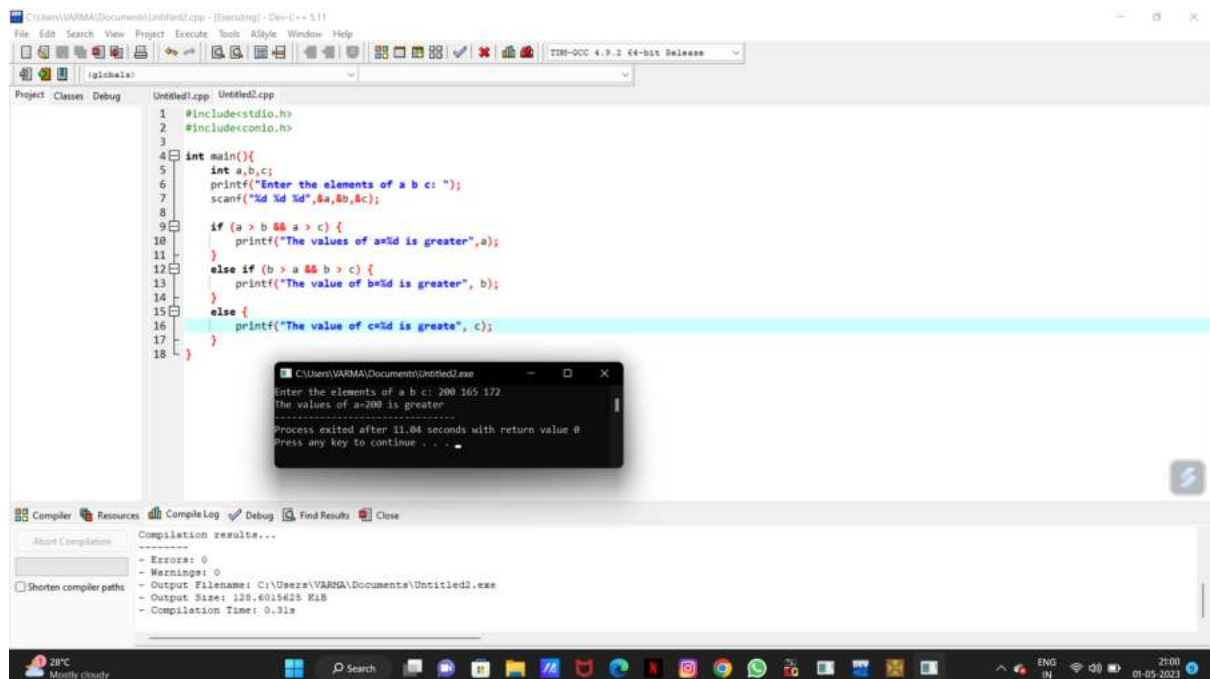
Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled1.exe
- Output Size: 128,100,559,375 KiB
- Compilation Time: 0.28s

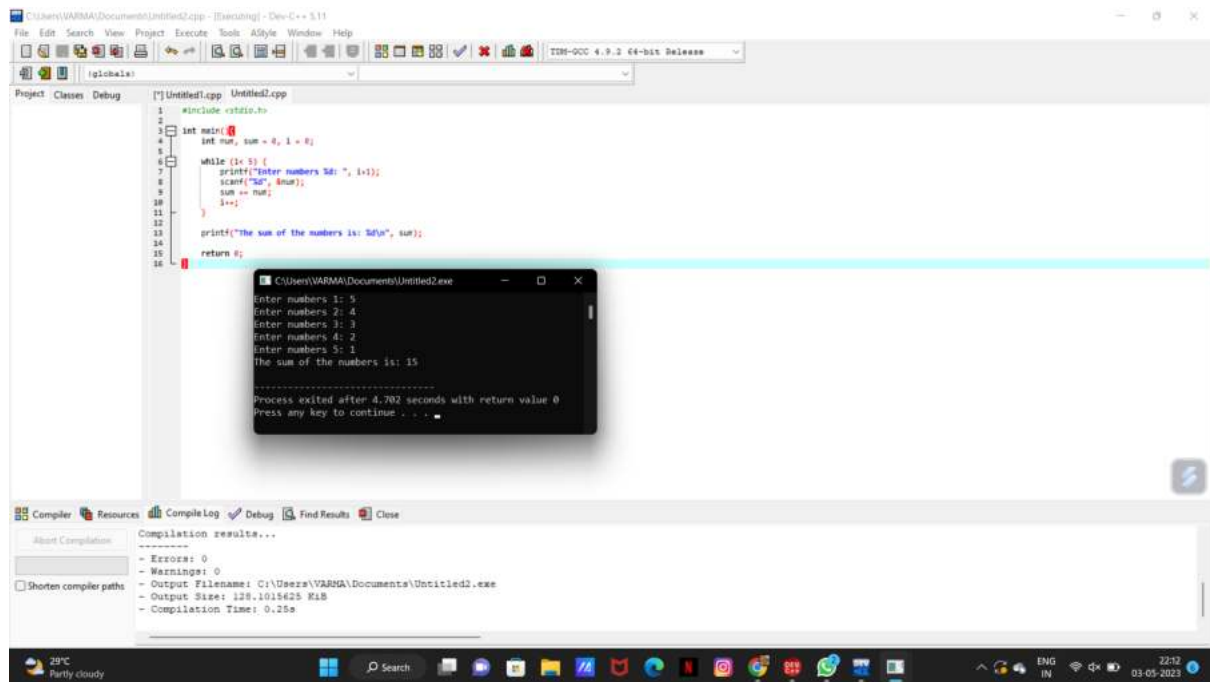
## 9. MARKS AND GRADES IN C (USING CONDITIONAL STATEMENTS)



## 10. BIGGER BETWEEN THREE VALUES



## 11.GET 5 NUMBERS FROM USER AND SUM IT USING WHILE LOOP



```
1 #include <stdio.h>
2
3 int main()
4 {
5     int num, sum = 0, i = 0;
6     while (i < 5) {
7         printf("Enter numbers %d: ", i+1);
8         scanf("%d", &num);
9         sum += num;
10        i++;
11    }
12    printf("The sum of the numbers is: %d\n", sum);
13
14    return 0;
15 }
```

Output:

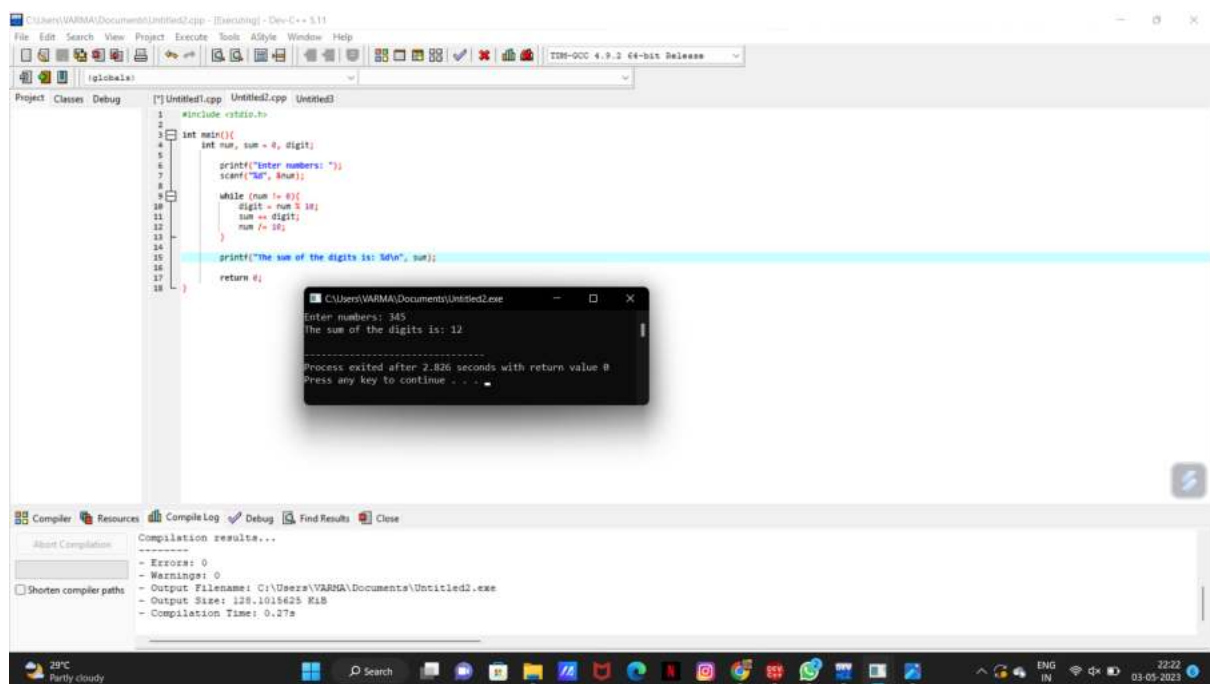
```
Enter numbers 1: 5
Enter numbers 2: 4
Enter numbers 3: 3
Enter numbers 4: 2
Enter numbers 5: 1
The sum of the numbers is: 15

Process exited after 4.702 seconds with return value 0
Press any key to continue . . .
```

Compilation results:

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled2.exe
- Output Size: 128.1015625 KiB
- Compilation Time: 0.25s

## 12. SUM OF DIGITS USING WHILE LOOP



```
1 #include <stdio.h>
2
3 int main()
4 {
5     int num, sum = 0, digit;
6     printf("Enter numbers: ");
7     scanf("%d", &num);
8     while (num != 0) {
9         digit = num % 10;
10        sum += digit;
11        num /= 10;
12    }
13    printf("The sum of the digits is: %d\n", sum);
14
15    return 0;
16 }
```

Output:

```
Enter numbers: 345
The sum of the digits is: 12

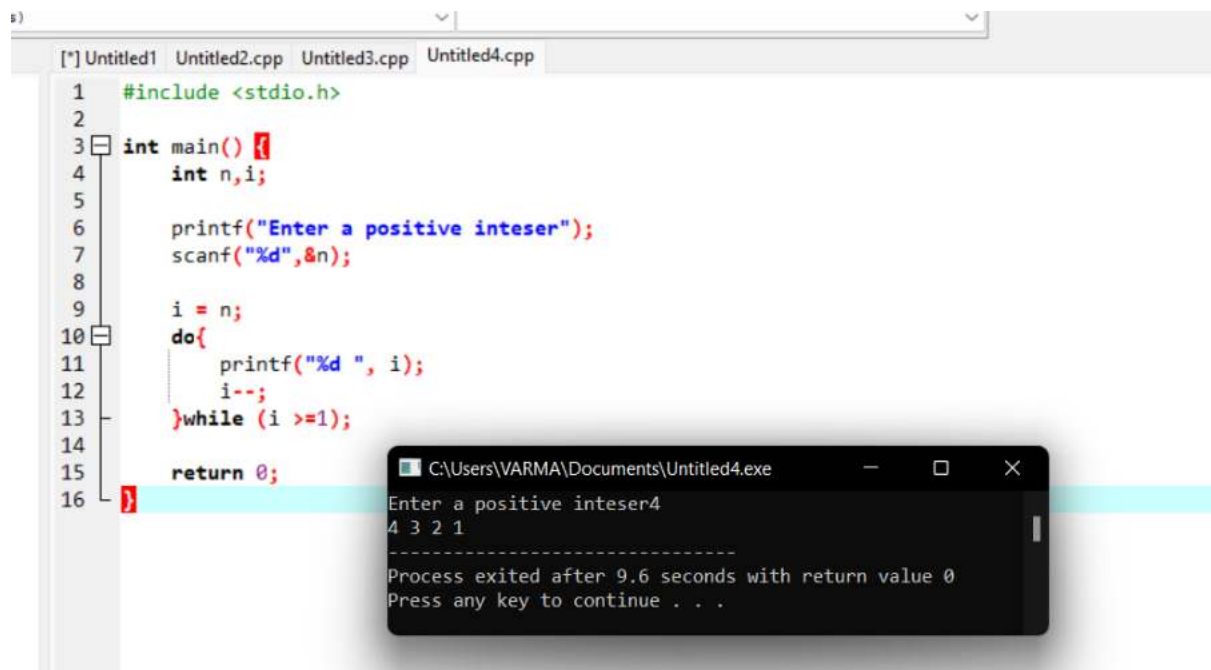
Process exited after 2.826 seconds with return value 0
Press any key to continue . . .
```

Compilation results:

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled2.exe
- Output Size: 128.1015625 KiB
- Compilation Time: 0.27s



### 13.PRINT THE FIRST N NUMBERS IN REVERSE USING DO VALUE



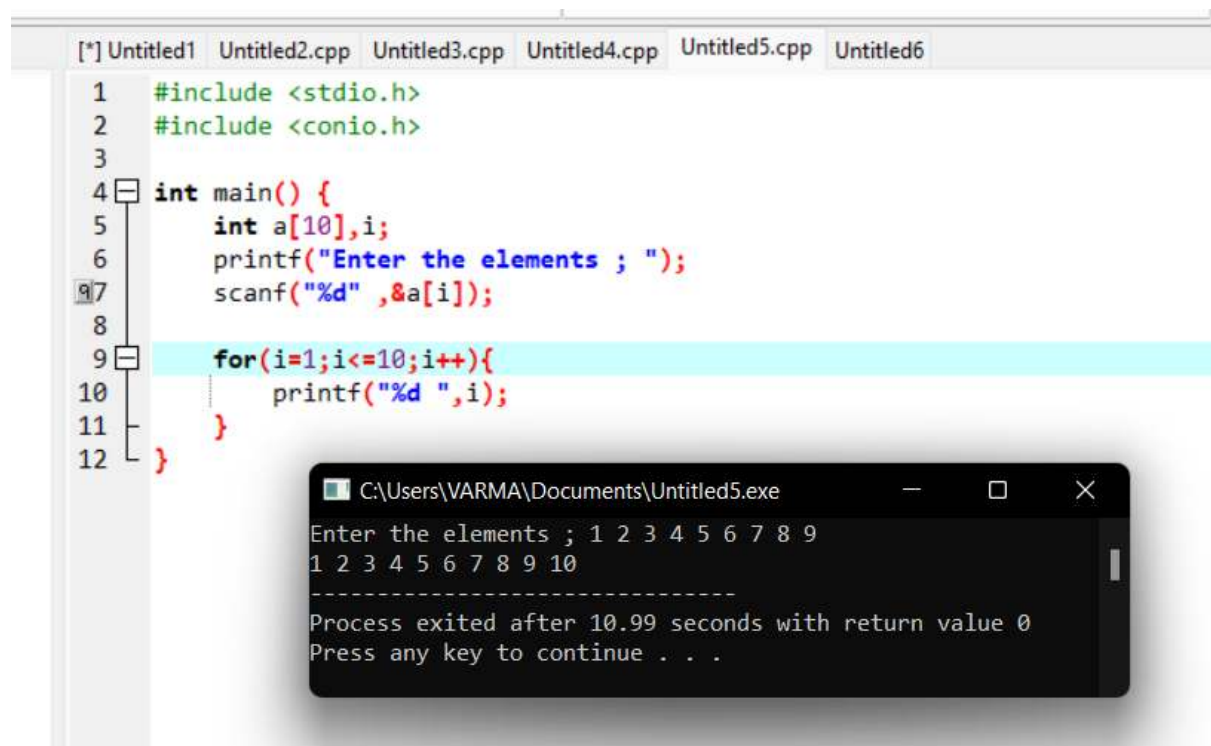
```
1 #include <stdio.h>
2
3 int main() {
4     int n,i;
5
6     printf("Enter a positive inteser");
7     scanf("%d",&n);
8
9     i = n;
10    do{
11        printf("%d ", i);
12        i--;
13    }while (i >=1);
14
15    return 0;
16 }
```

C:\Users\VARMA\Documents\Untitled4.exe

Enter a positive inteser4  
4 3 2 1

-----  
Process exited after 9.6 seconds with return value 0  
Press any key to continue . . .

### 14. INNITIALIZATION OF ARRAY



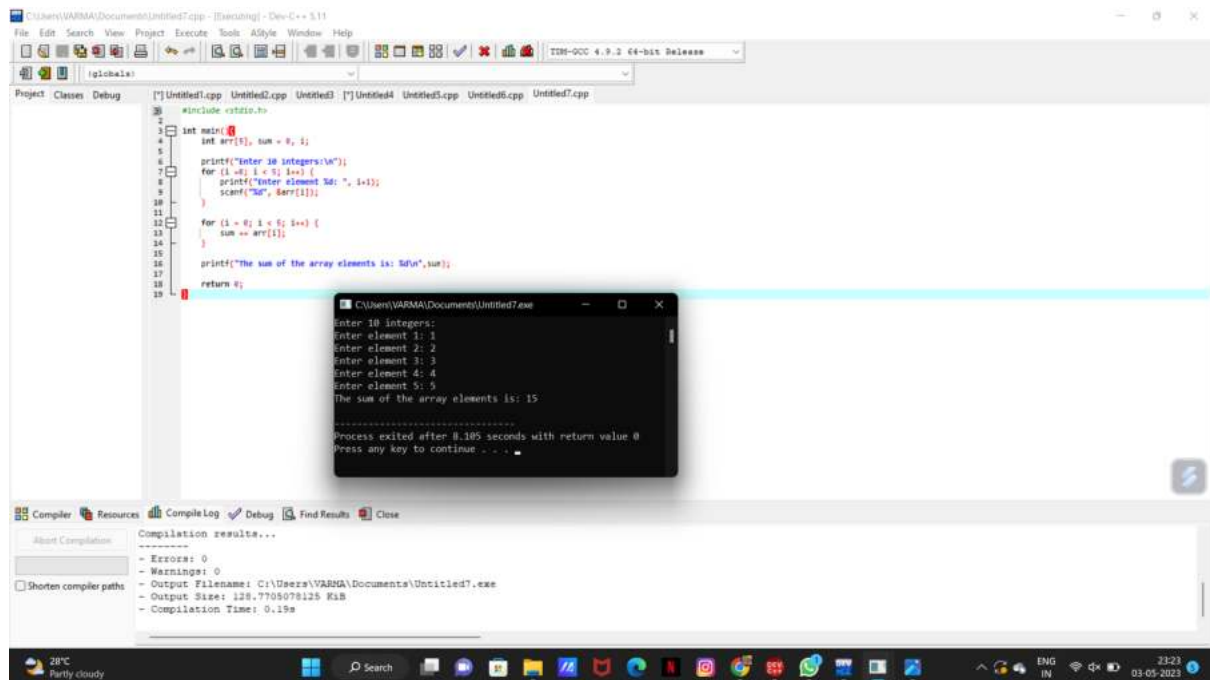
```
1 #include <stdio.h>
2 #include <conio.h>
3
4 int main() {
5     int a[10],i;
6     printf("Enter the elements ; ");
7     scanf("%d" ,&a[i]);
8
9     for(i=1;i<=10;i++){
10        printf("%d ",i);
11    }
12 }
```

C:\Users\VARMA\Documents\Untitled5.exe

Enter the elements ; 1 2 3 4 5 6 7 8 9  
1 2 3 4 5 6 7 8 9 10

-----  
Process exited after 10.99 seconds with return value 0  
Press any key to continue . . .

## 15. SUM OF ARRAY ELEMENTS



The screenshot shows a C++ IDE with the following code in `Untitled7.cpp`:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int arr[5], sum = 0, i;
6
7     printf("Enter 5 integers:\n");
8     for (i = 0; i < 5; i++) {
9         printf("Enter element %d: ", i+1);
10        scanf("%d", &arr[i]);
11    }
12
13    for (i = 0; i < 5; i++) {
14        sum += arr[i];
15    }
16
17    printf("The sum of the array elements is: %d\n", sum);
18
19    return 0;
20 }
```

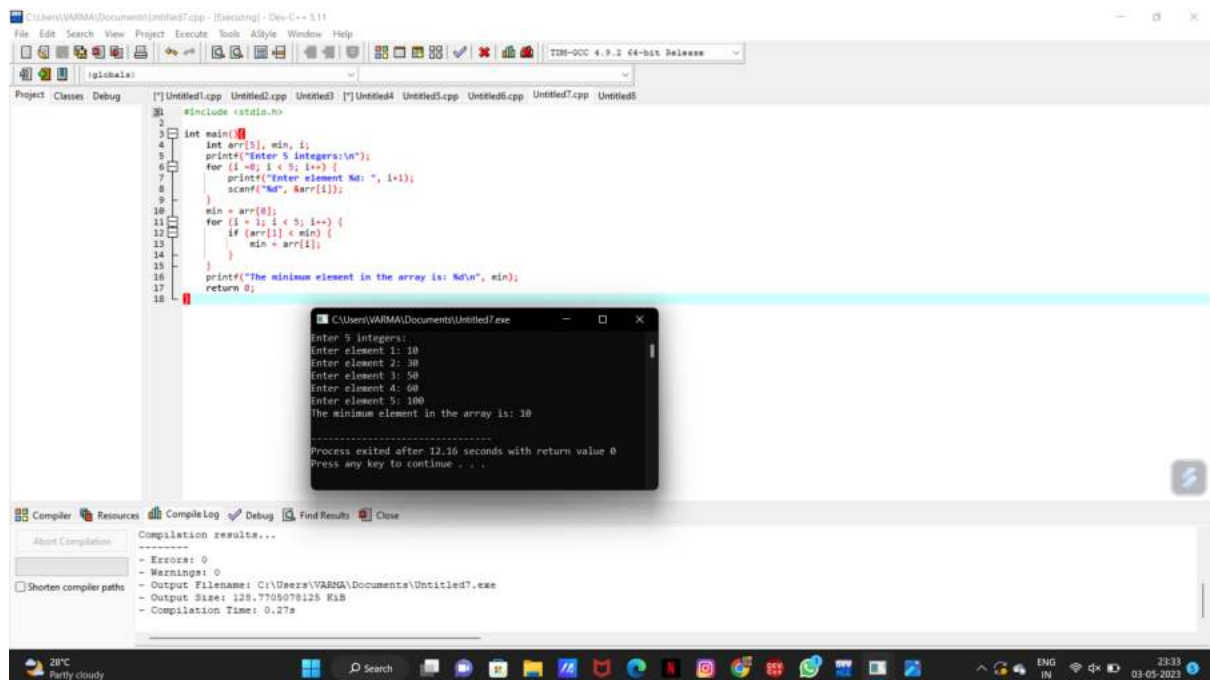
The execution output window shows the following text:

```
Enter 5 integers:
Enter element 1: 1
Enter element 2: 2
Enter element 3: 3
Enter element 4: 4
Enter element 5: 5
The sum of the array elements is: 15
Process exited after 8.305 seconds with return value 0
Press any key to continue . . .
```

The compiler output window shows the following text:

```
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled7.exe
- Output Size: 128.7705078125 KiB
- Compilation Time: 0.19s
```

## 16. MINIMUM ELEMENT IN ARRAY



The screenshot shows a C++ IDE with the following code in `Untitled7.cpp`:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int arr[5], min, i;
6     printf("Enter 5 integers:\n");
7     for (i = 0; i < 5; i++) {
8         printf("Enter element %d: ", i+1);
9         scanf("%d", &arr[i]);
10    }
11
12    min = arr[0];
13    for (i = 1; i < 5; i++) {
14        if (arr[i] < min) {
15            min = arr[i];
16        }
17    }
18
19    printf("The minimum element in the array is: %d\n", min);
20
21    return 0;
22 }
```

The execution output window shows the following text:

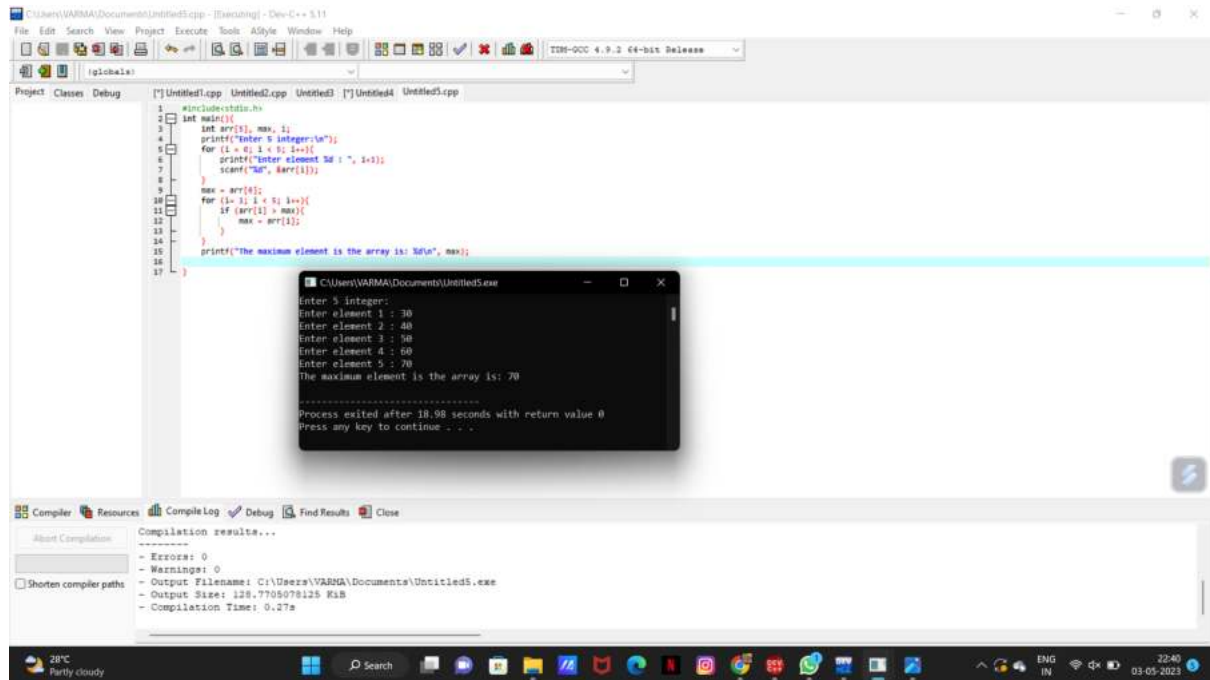
```
Enter 5 integers:
Enter element 1: 10
Enter element 2: 30
Enter element 3: 50
Enter element 4: 60
Enter element 5: 100
The minimum element in the array is: 10
Process exited after 12.16 seconds with return value 0
Press any key to continue . . .
```

The compiler output window shows the following text:

```
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled7.exe
- Output Size: 128.7705078125 KiB
- Compilation Time: 0.27s
```



## 17. MAXIMUM ELEMENT IN AN ARRAY



The screenshot shows a C++ IDE with the following code in `Untitled5.cpp`:

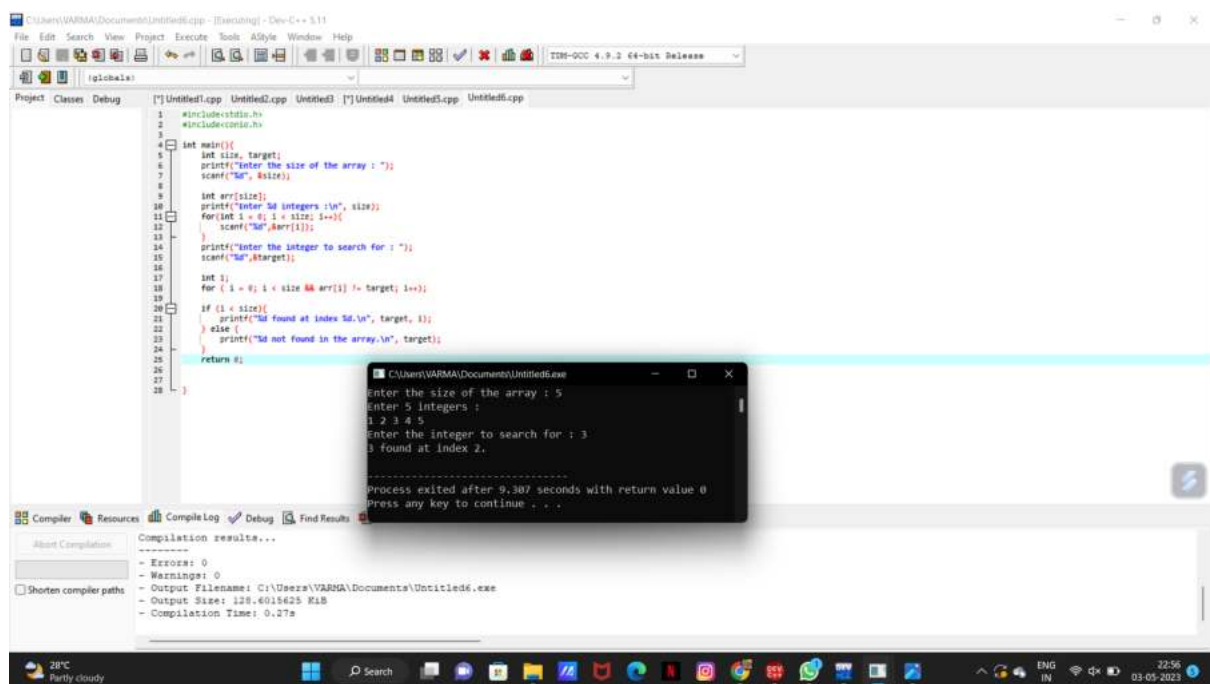
```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int arr[5], max, i;
6     printf("Enter 5 integers:\n");
7     for (i = 0; i < 5; i++)
8     {
9         printf("Enter element %d : ", i+1);
10        scanf("%d", &arr[i]);
11    }
12    max = arr[0];
13    for (i = 1; i < 5; i++)
14    {
15        if (arr[i] > max)
16            max = arr[i];
17    }
18    printf("The maximum element is the array is: %d\n", max);
19 }
```

The execution output shows the user entering 5 integers: 30, 40, 50, 60, 70. The program outputs: "The maximum element is the array is: 70".

Compilation results:

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled5.exe
- Output Size: 128.7705078125 KiB
- Compilation Time: 0.27s

## 18. SEARCH ELEMENT IN ARRAY USING LINEAR SEARCH



The screenshot shows a C++ IDE with the following code in `Untitled6.cpp`:

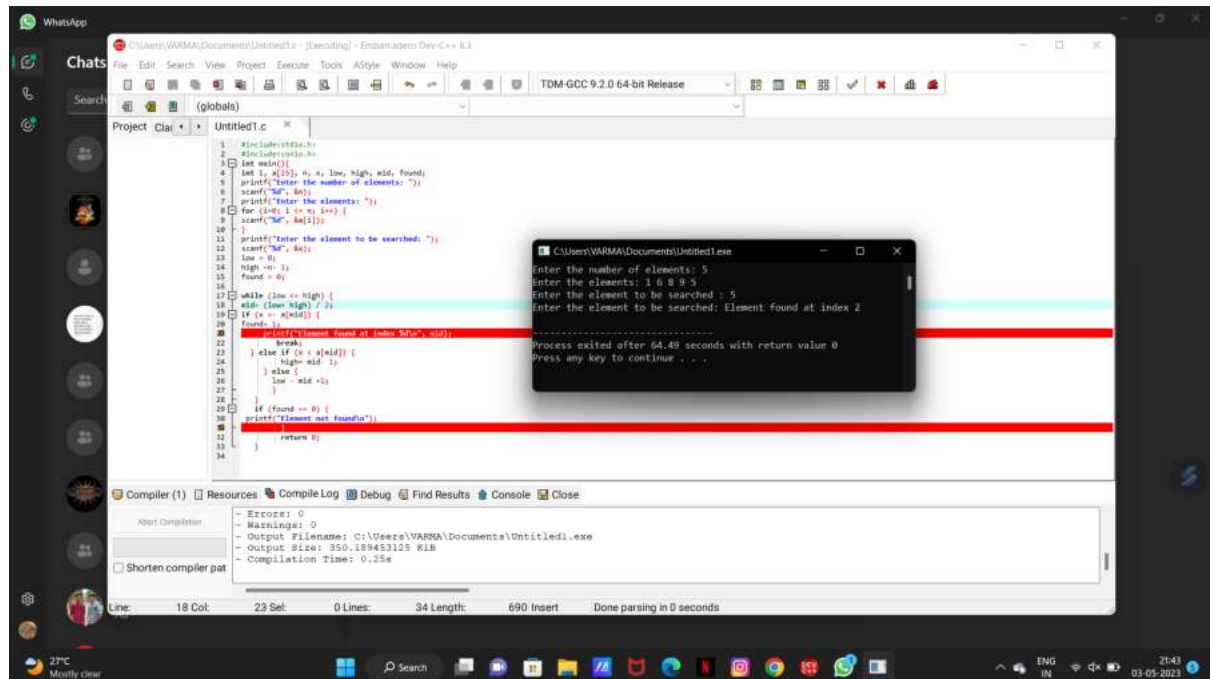
```
1 #include<iostream>
2 #include<conio.h>
3 using namespace std;
4 int main()
5 {
6     int size, target;
7     printf("Enter the size of the array : ");
8     scanf("%d", &size);
9
10    int arr[size];
11    printf("Enter %d integers :\n", size);
12    for (int i = 0; i < size; i++)
13    {
14        scanf("%d", &arr[i]);
15    }
16    printf("Enter the integer to search for : ");
17    scanf("%d", &target);
18
19    int i;
20    for (i = 0; i < size && arr[i] != target; i++);
21
22    if (i < size)
23    {
24        printf("%d found at index %d.\n", target, i);
25    }
26    else
27    {
28        printf("%d not found in the array.\n", target);
29    }
30    return 0;
31 }
```

The execution output shows the user entering the size of the array as 5, then entering 5 integers: 1, 2, 3, 4, 5. The user enters the integer to search for as 3. The program outputs: "3 found at index 2."

Compilation results:

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled6.exe
- Output Size: 128.6015625 KiB
- Compilation Time: 0.27s

## 19. BINARY SEARCH



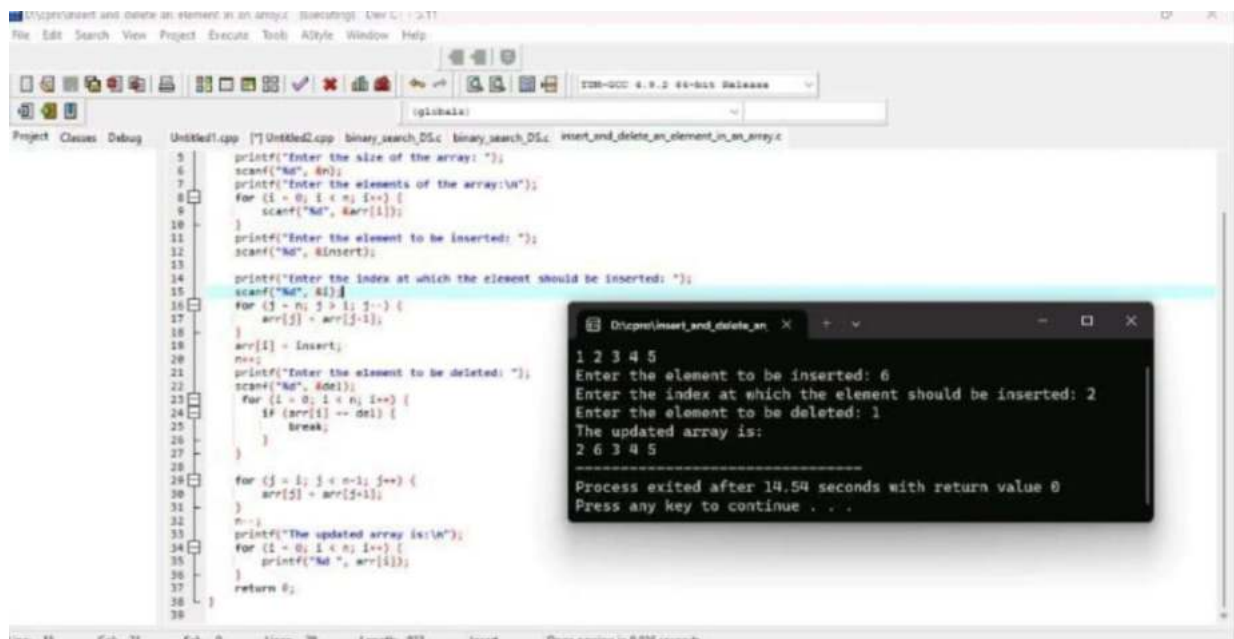
```
1 #include<stdio.h>
2 #include<conio.h>
3 int main()
4 {
5     int n, i, j, low, high, mid, found;
6     printf("Enter the number of elements: ");
7     scanf("%d", &n);
8     for (i = 0; i < n; i++) {
9         scanf("%d", &arr[i]);
10    }
11    printf("Enter the element to be searched: ");
12    scanf("%d", &key);
13    low = 0;
14    high = n - 1;
15    found = 0;
16    while (low <= high) {
17        mid = (low + high) / 2;
18        if (arr[mid] == key) {
19            found = 1;
20            break;
21        } else if (arr[mid] < key) {
22            low = mid + 1;
23        } else {
24            high = mid - 1;
25        }
26    }
27    if (found == 1) {
28        printf("Element found at index %d", mid);
29    } else {
30        printf("Element not found");
31    }
32    return 0;
33 }
```

Compiler (1) Resources Compile Log Debug Find Results Console Close

Errors: 0  
Warnings: 0  
Output Filename: C:\Users\VARMA\Documents\Untitled1.exe  
Output Size: 350.189453125 Kib  
Compilation Time: 0.25s

Line: 18 Col: 23 Sel: 0 Lines: 34 Length: 690 Insert Done parsing in 0 seconds

## 20. INSERT AND DELETE A ELEMENT IN AN ARRAY



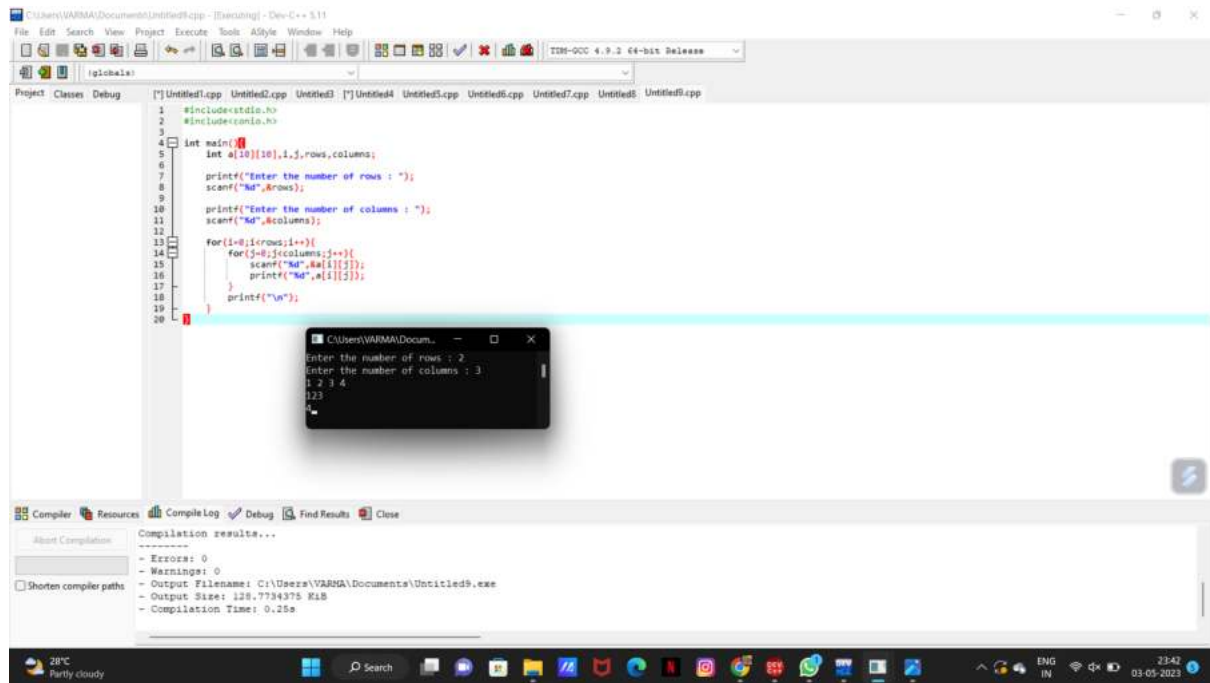
```
1 #include<stdio.h>
2 #include<conio.h>
3 int main()
4 {
5     printf("Enter the size of the array: ");
6     scanf("%d", &n);
7     printf("Enter the elements of the array:\n");
8     for (i = 0; i < n; i++) {
9         scanf("%d", &arr[i]);
10    }
11    printf("Enter the element to be inserted: ");
12    scanf("%d", &insert);
13    printf("Enter the index at which the element should be inserted: ");
14    scanf("%d", &index);
15    for (j = n; j >= index; j--) {
16        arr[j] = arr[j+1];
17    }
18    arr[index] = insert;
19    n++;
20    printf("Enter the element to be deleted: ");
21    scanf("%d", &del);
22    for (i = 0; i < n; i++) {
23        if (arr[i] == del) {
24            break;
25        }
26    }
27    for (j = i; j < n-1; j++) {
28        arr[j] = arr[j+1];
29    }
30    n--;
31    printf("The updated array is:\n");
32    for (i = 0; i < n; i++) {
33        printf("%d ", arr[i]);
34    }
35    return 0;
36 }
```

Compiler (1) Resources Compile Log Debug Find Results Console Close

Errors: 0  
Warnings: 0  
Output Filename: C:\Users\VARMA\Documents\Untitled2.exe  
Output Size: 350.189453125 Kib  
Compilation Time: 0.25s

Line: 18 Col: 23 Sel: 0 Lines: 34 Length: 690 Insert Done parsing in 0 seconds

## 21. INITIALIZATION AND PRINTING OF 2-D ARRAY



The screenshot displays a C++ IDE with a project named 'iglobal'. The main window shows a C++ program for initializing and printing a 2D array. The code is as follows:

```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main()
5 {
6     int a[20][10],i,j,rows,columns;
7     printf("Enter the number of rows : ");
8     scanf("%d",&rows);
9     printf("Enter the number of columns : ");
10    scanf("%d",&columns);
11
12    for(i=0;i<rows;i++){
13        for(j=0;j<columns;j++){
14            scanf("%d",&a[i][j]);
15            printf("%d",a[i][j]);
16        }
17        printf("\n");
18    }
19 }
20
```

A terminal window is open, showing the program's execution. It prompts for the number of rows (2) and columns (3), then prints the input values: 2 3 4, 2 2 3, and 4.

The bottom panel shows the 'Compiler' tab with the following compilation results:

```
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled9.exe
- Output Size: 128,773,4375 KiB
- Compilation Time: 0.25s
```

The Windows taskbar at the bottom shows the system clock as 23:42 on 03-05-2023, with a temperature of 28°C and a 'Partly cloudy' weather status.