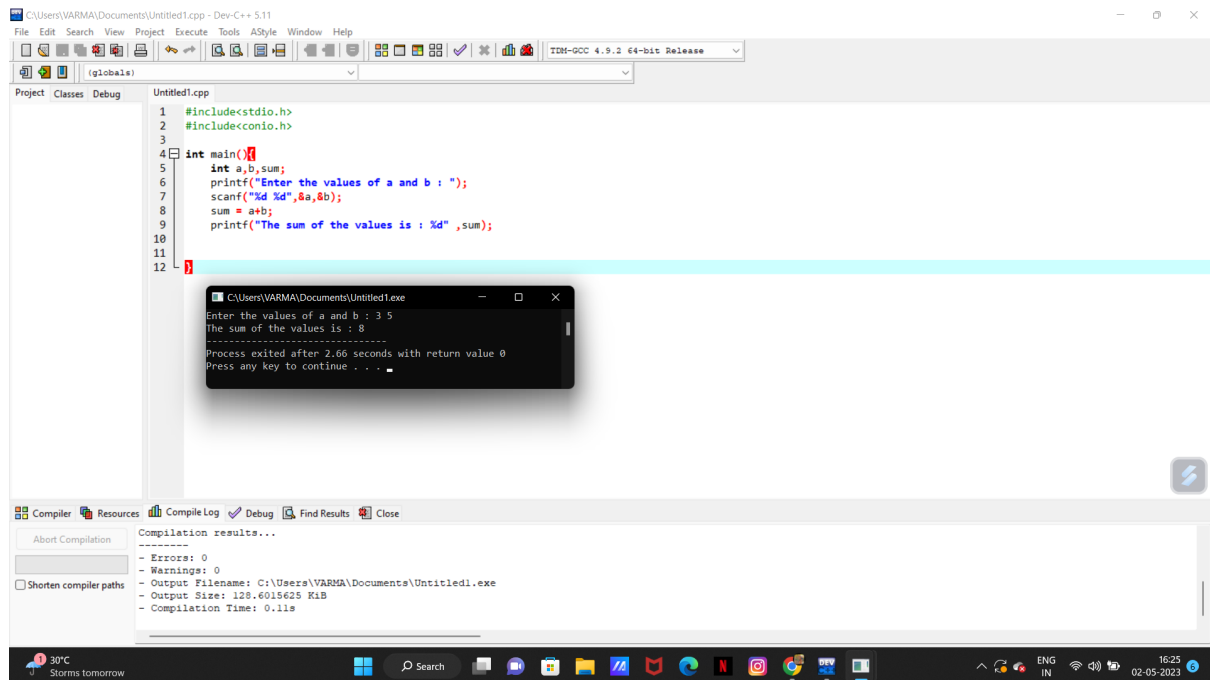


1.ARITHMETIC OPERATION IN C USING DYNAMIC INITIALIZATION



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     int a,b,sum;
7     printf("Enter the values of a and b : ");
8     scanf("%d %d",&a,&b);
9     sum = a+b;
10    printf("The sum of the values is : %d",sum);
11}
12
```

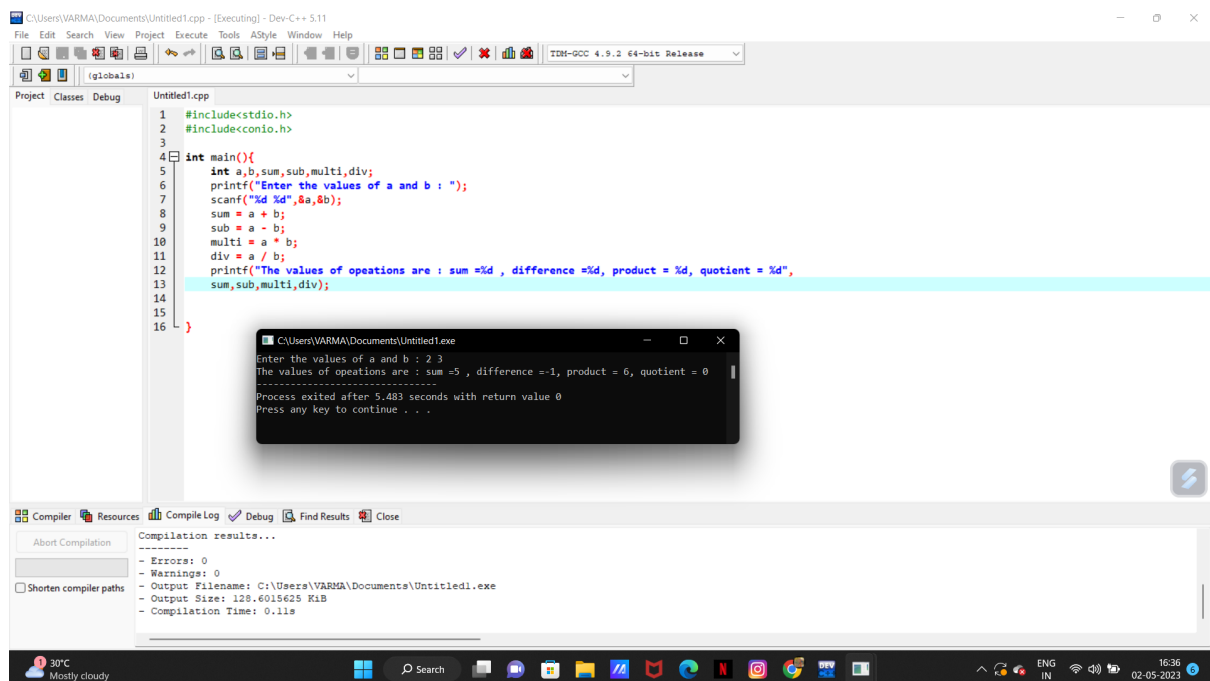
The execution output is shown in a separate window:

```
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 compilation results are shown at the bottom:

```
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     int a,b,sum,sub,multi,div;
7     printf("Enter the values of a and b : ");
8     scanf("%d %d",&a,&b);
9     sum = a + b;
10    sub = a - b;
11    multi = a * b;
12    div = a / b;
13    printf("The values of opeations are : sum =%d , difference =%d, product = %d, quotient = %d",
14           sum,sub,multi,div);
15}
16
```

The execution output is shown in a separate window:

```
C:\Users\VARMA\Documents\Untitled1.exe
Enter the values of a and b : 2 3
The values of opeations 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 compilation results are shown at the bottom:

```
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 INITILIZATION

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. A `printf` statement displays the results. The program is compiled and executed, showing the output in a console window. The compilation results at the bottom show 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 opeations 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 }
```

Output:

```
The values of opeations are : sum =30 , difference =-10, product = 200, quotient = 0
Process exited after 0.006945 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 PROGRM 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. A `printf` statement prompts the user to enter an element. A `scanf` statement reads the input. An `if` statement checks if the number is even (`a%2==0`). If true, it prints "The given number is an even number". Otherwise, it prints "The given number is neither even are odd". An `else` block prints "The given number is odd number". The program is compiled and executed, showing the output in a console window. The compilation results at the bottom show 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     }
12     else if (a%2!=0){
13         printf(" The given number is neither even are odd");
14     }
15     else{
16         printf("The given number is odd number");
17     }
18 }
```

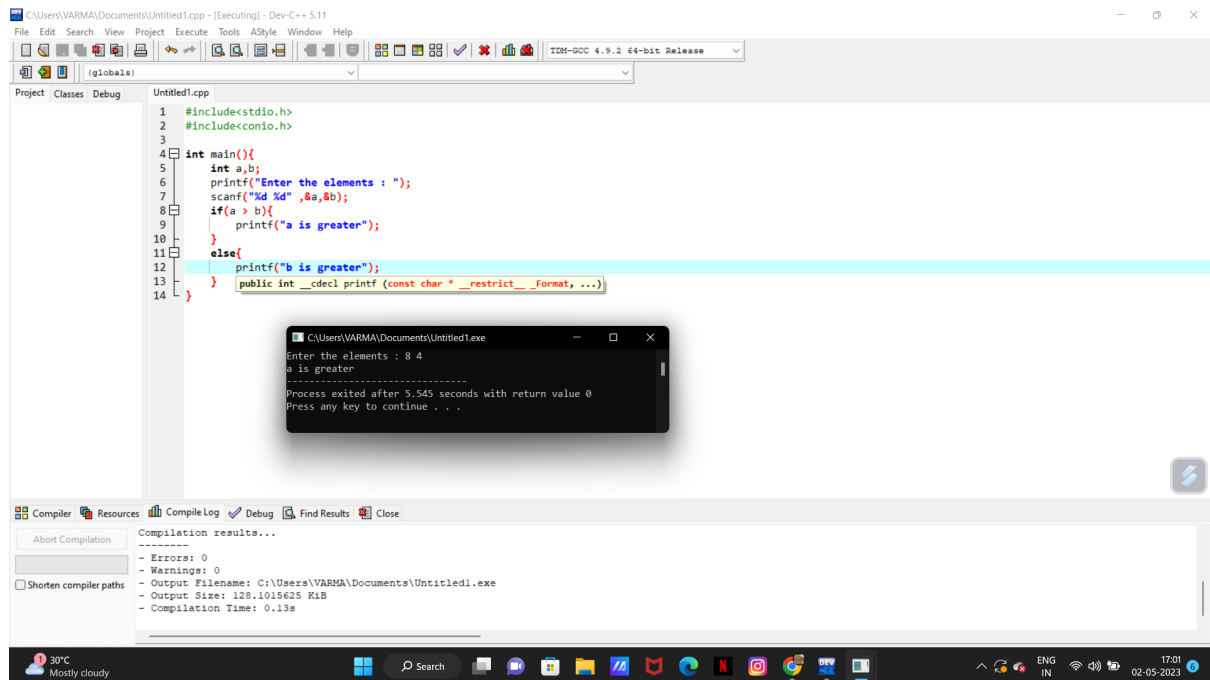
Output:

```
Enter the elements : 5
The given number is odd number
Process exited after 1.539 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



The screenshot shows the Dev-C++ IDE with a C program that compares two numbers. The code is as follows:

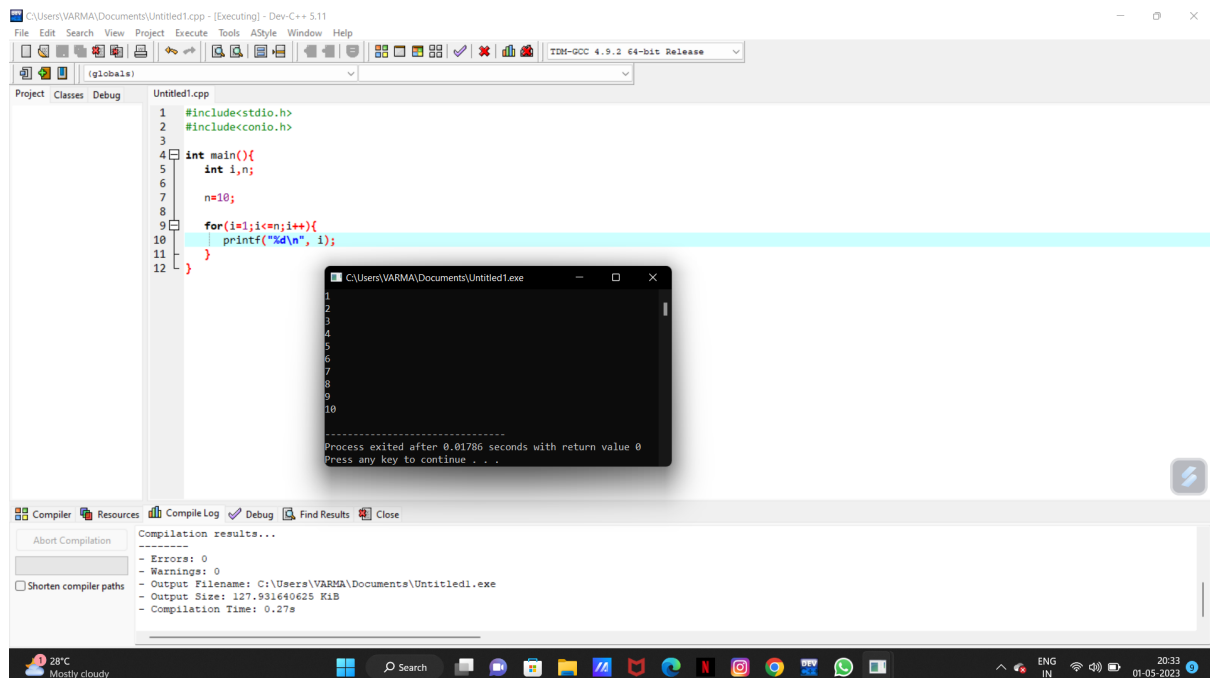
```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main(){
5     int a,b;
6     printf("Enter the elements : ");
7     scanf("%d %d", &a,&b);
8     if(a > b){
9         printf("a is greater");
10    }
11    else{
12        printf("b is greater");
13    }
14 }
```

The program was compiled and executed. The output window shows the following text:

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

The compilation results at the bottom show 0 errors and 0 warnings. The output filename is C:\Users\VARMA\Documents\Untitled1.exe, the output size is 128.1015625 KiB, and the compilation time is 0.13s.

6.PRINT NUMBERS FROM 1 TO 10



The screenshot shows the Dev-C++ IDE with a C program that prints numbers from 1 to 10. The code is as follows:

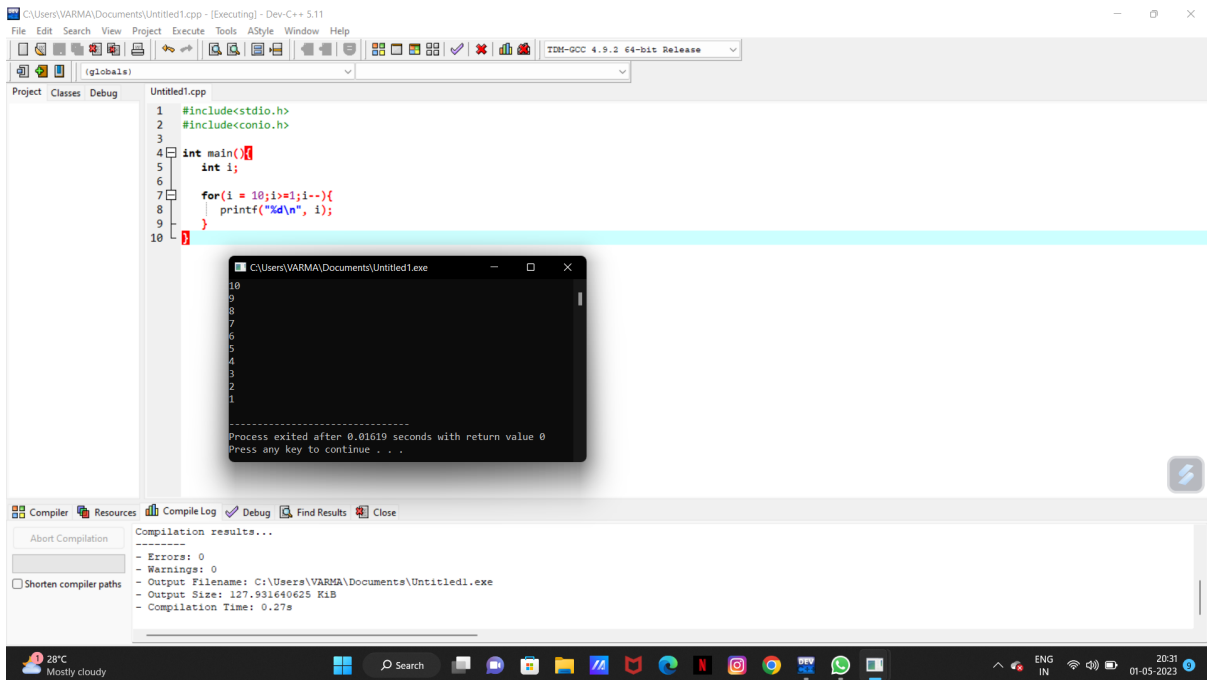
```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main(){
5     int i,n;
6
7     n=10;
8
9     for(i=1;i<=n;i++){
10        printf("%d\n", i);
11    }
12 }
```

The program was compiled and executed. The output window shows the following text:

```
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 . . .
```

The compilation results at the bottom show 0 errors and 0 warnings. The output filename is C:\Users\VARMA\Documents\Untitled1.exe, the output size is 127.931640625 KiB, and the compilation time is 0.27s.

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 }
```

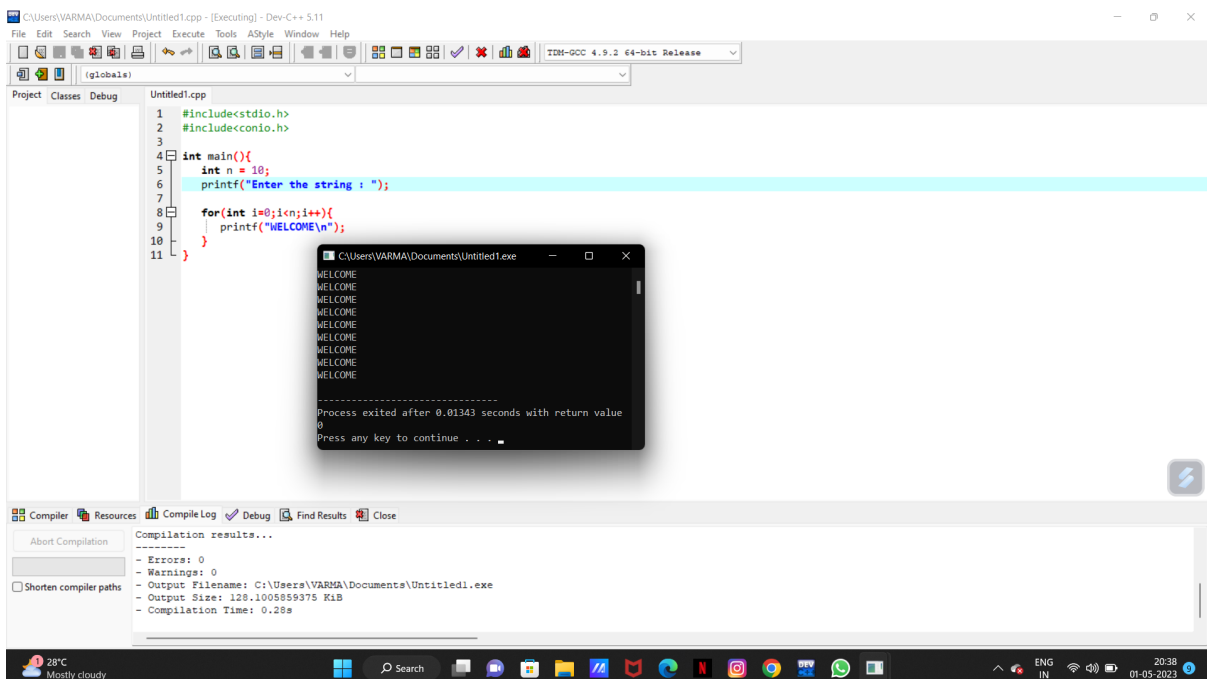
Output window (Untitled1.exe):

```
10
9
8
7
6
5
4
3
2
1
-----
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: 127.931640625 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 }
```

Output window (Untitled1.exe):

```
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: 128.1005859375 KiB
- Compilation Time: 0.28s
```

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

The screenshot shows the Dev-C++ IDE with a C program for calculating marks and grades. The code is as follows:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int mark;
6     printf("Enter the mark: ");
7     scanf("%d", &mark);
8
9     if (mark >= 100) {
10        printf("S grade\n");
11    }
12    else if (mark >= 90) {
13        printf("A grade\n");
14    }
15    else if (mark >= 80) {
16        printf("B grade\n");
17    }
18    else if (mark >= 70) {
19        printf("C grade\n");
20    }
21    else if (mark >= 60) {
22        printf("D grade\n");
23    }
24    else if (mark >= 50) {
25        printf("E grade\n");
26    }
27    else {
28        printf("U grade\n");
29    }
30 }
31
```

The program was executed, and the output window shows the following text:

```
C:\Users\VARMA\Documents\Untitled3.exe
Enter the mark: 76
C grade
-----
Process exited after 3.865 seconds with return value 0
Press any key to continue . . .
```

The compilation results window shows the following information:

```
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled3.exe
- Output Size: 128.7705078125 KiB
- Compilation Time: 0.16s
```

10.BIGGER BETWEEN THREE VALUES

The screenshot shows the Dev-C++ IDE with a C program for finding the biggest value among three numbers. The code is as follows:

```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main(){
5     int a,b,c;
6     printf("Enter the elements of a b c: ");
7     scanf("%d %d %d",&a,&b,&c);
8
9     if (a > b && a > c) {
10        printf("The values of a=%d is greater",a);
11    }
12    else if (b > a && b > c) {
13        printf("The value of b=%d is greater", b);
14    }
15    else {
16        printf("The value of c=%d is greater", c);
17    }
18 }
```

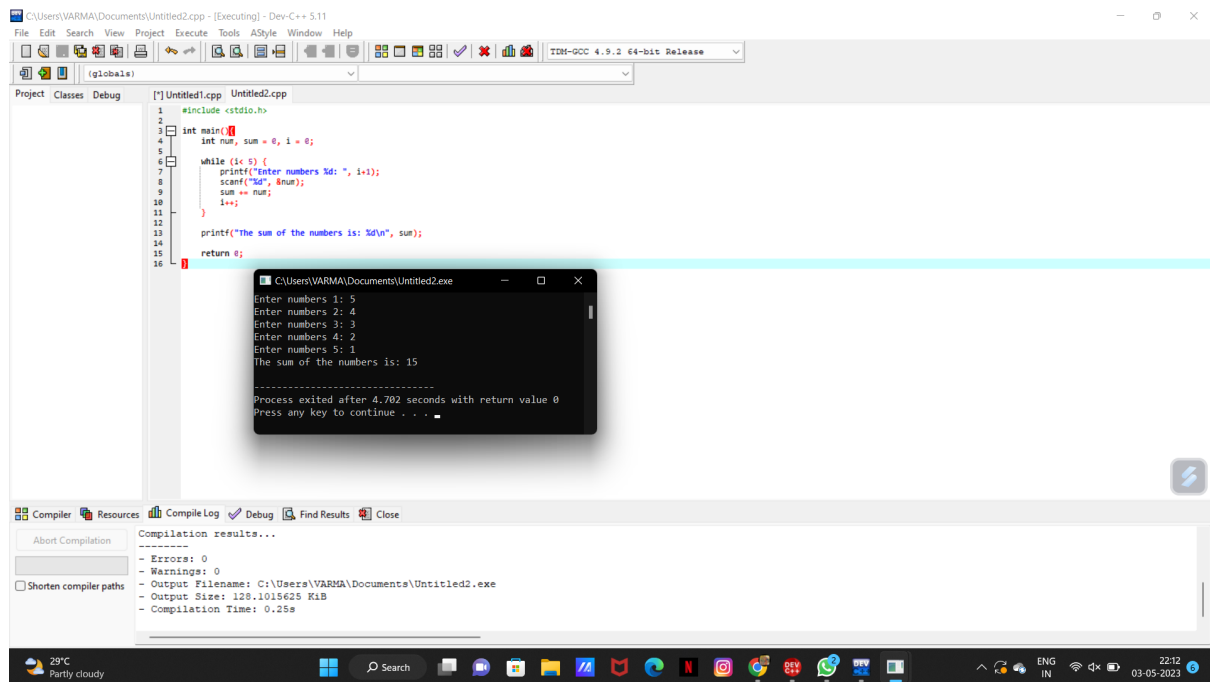
The program was executed, and the output window shows the following text:

```
C:\Users\VARMA\Documents\Untitled2.exe
Enter the elements of a b c: 200 165 172
The values of a=200 is greater
-----
Process exited after 11.04 seconds with return value 0
Press any key to continue . . .
```

The compilation results window shows the following information:

```
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\VARMA\Documents\Untitled2.exe
- Output Size: 128.6015625 KiB
- Compilation Time: 0.31s
```

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



```
#include <stdio.h>

int main()
{
    int num, sum = 0, i = 0;

    while (i < 5) {
        printf("Enter numbers %d: ", i+1);
        scanf("%d", &num);
        sum += num;
        i++;
    }

    printf("The sum of the numbers is: %d\n", sum);

    return 0;
}
```

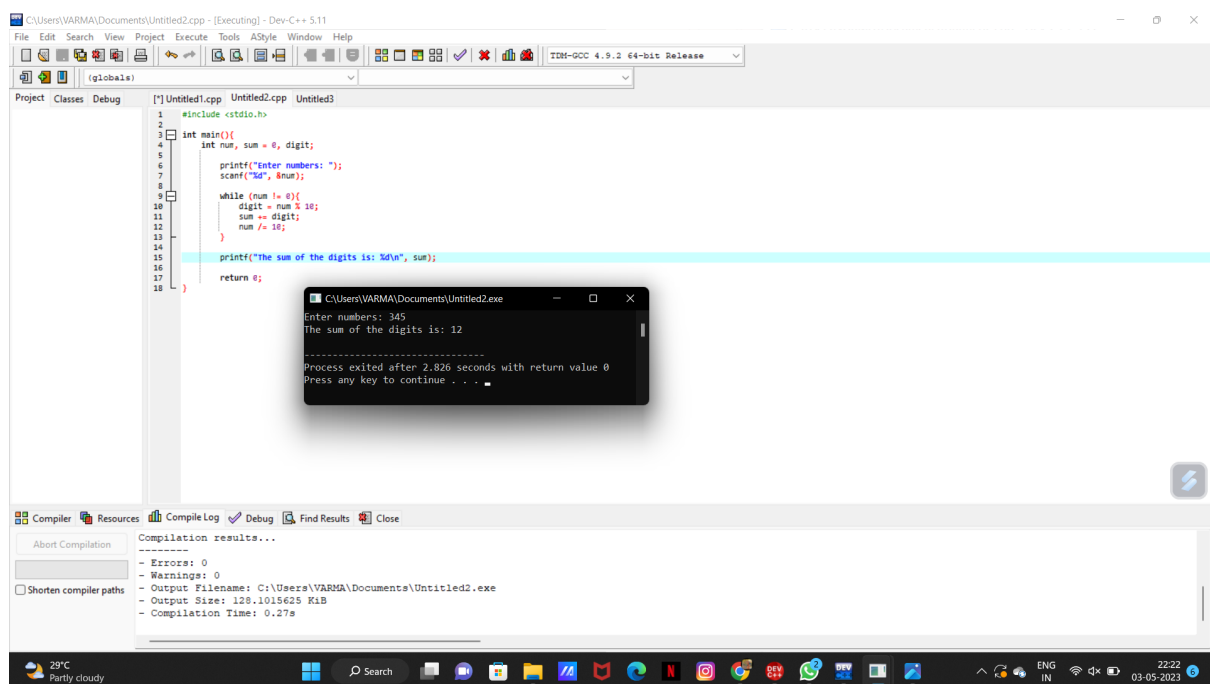
Enter numbers 1: 5
Enter numbers 2: 4
Enter numbers 3: 3
Enter numbers 4: 2
Enter numbers 5: 1
The sum of the numbers is: 15

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



```
#include <stdio.h>

int main()
{
    int num, sum = 0, digit;

    printf("Enter numbers: ");
    scanf("%d", &num);

    while (num != 0) {
        digit = num % 10;
        sum += digit;
        num /= 10;
    }

    printf("The sum of the digits is: %d\n", sum);

    return 0;
}
```

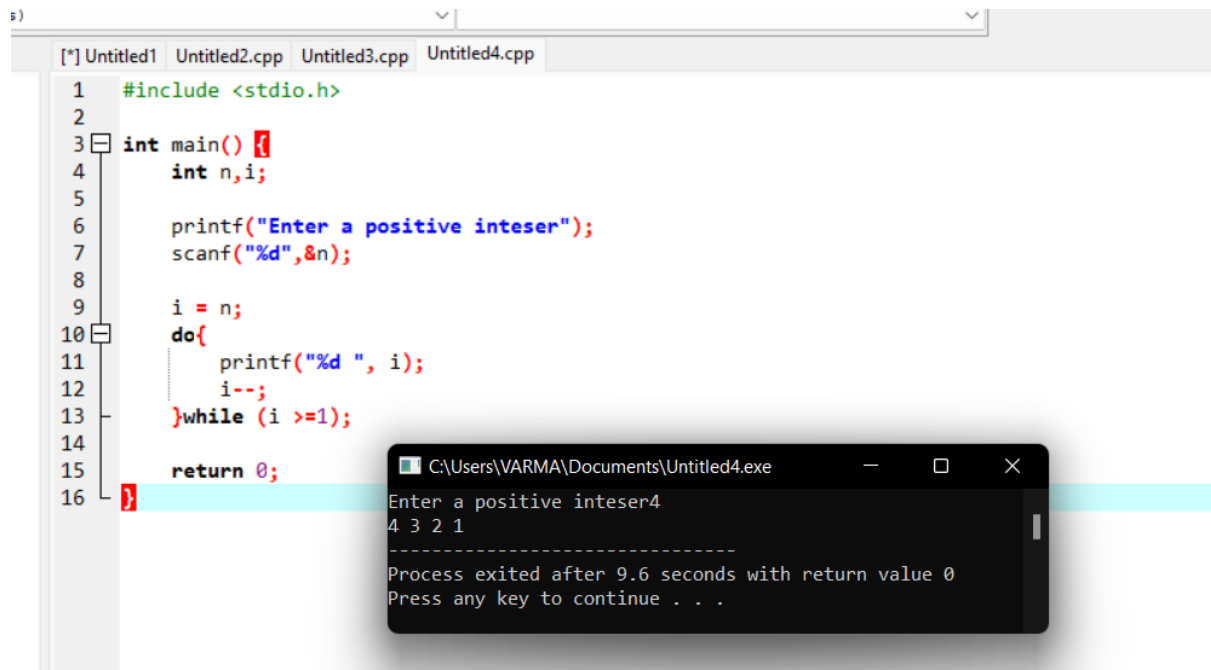
Enter numbers: 345
The sum of the digits is: 12

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



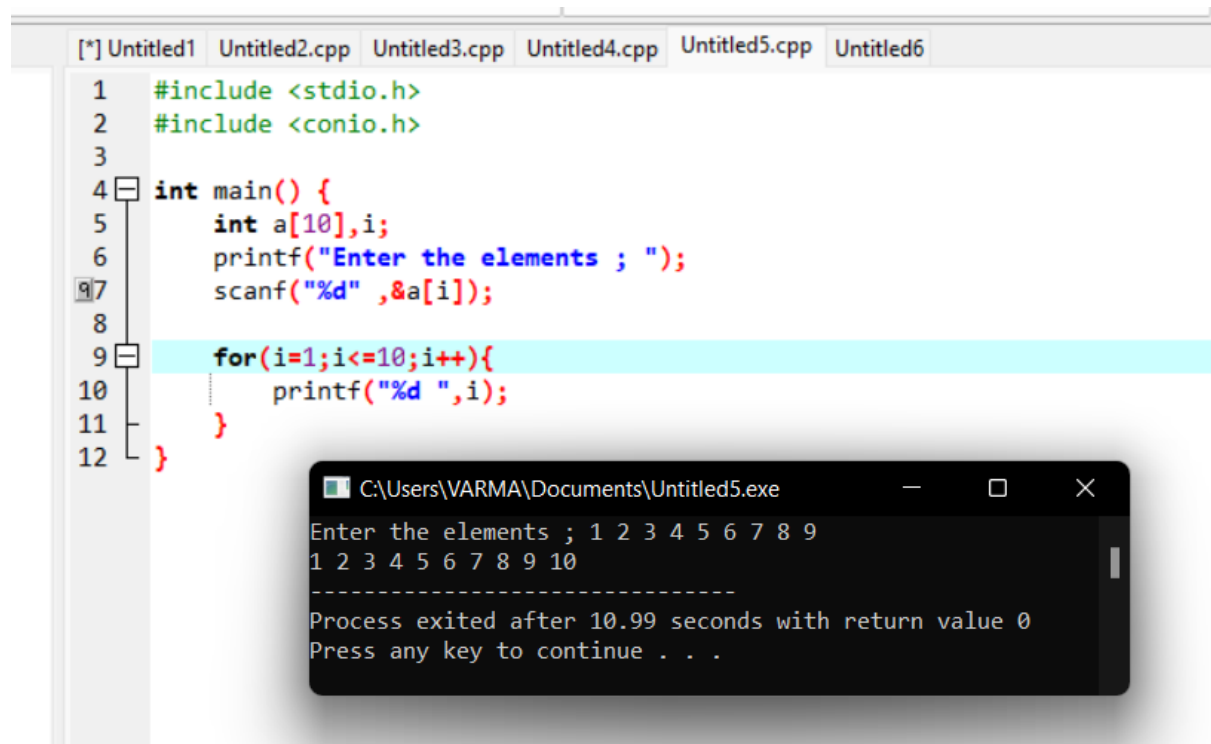
```
1 #include <stdio.h>
2
3 int main() {
4     int n,i;
5
6     printf("Enter a positive inteser");
7     scanf("%d",&n);
8
9     i = n;
10    do{
11        printf("%d ", i);
12        i--;
13    }while (i >=1);
14
15    return 0;
16 }
```

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



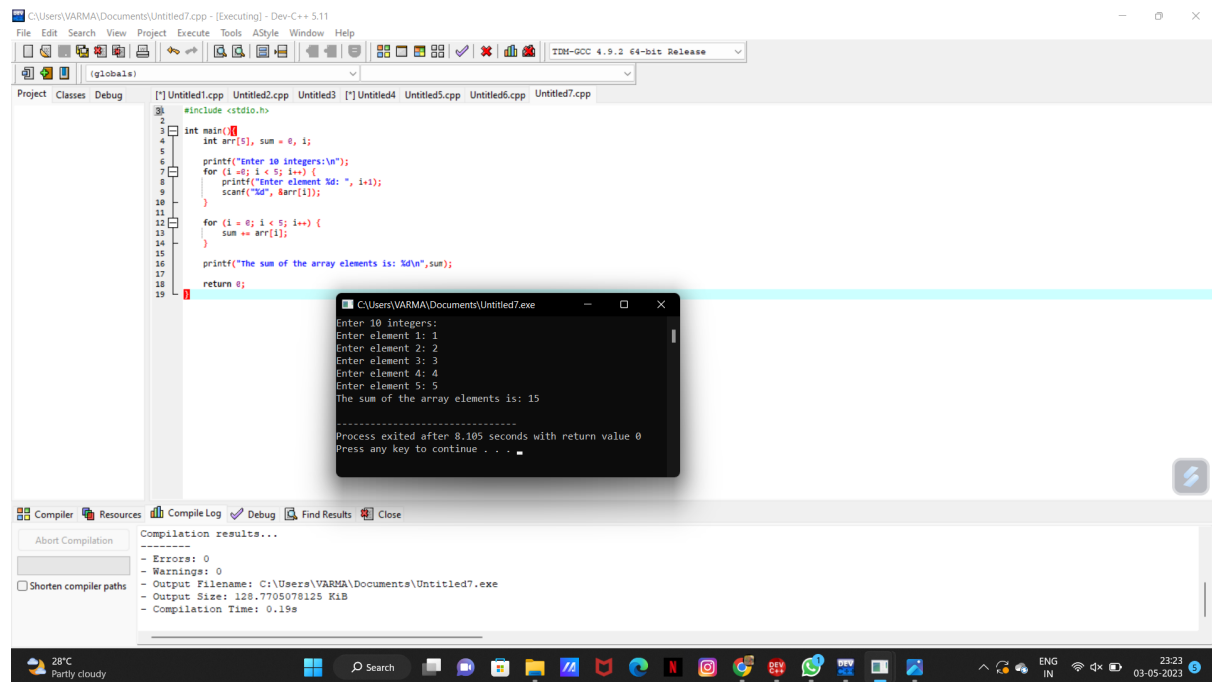
```
1 #include <stdio.h>
2 #include <conio.h>
3
4 int main() {
5     int a[10],i;
6     printf("Enter the elements ; ");
7     scanf("%d",&a[i]);
8
9     for(i=1;i<=10;i++){
10        printf("%d ",i);
11    }
12 }
```

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 the Dev-C++ IDE with a C++ program to calculate the sum of 10 integers. The code is as follows:

```
#include <stdio.h>

int main()
{
    int arr[5], sum = 0, i;

    printf("Enter 10 integers:\n");
    for (i = 0; i < 5; i++) {
        printf("Enter element %d: ", i+1);
        scanf("%d", &arr[i]);
    }

    for (i = 0; i < 5; i++) {
        sum += arr[i];
    }

    printf("The sum of the array elements is: %d\n", sum);

    return 0;
}
```

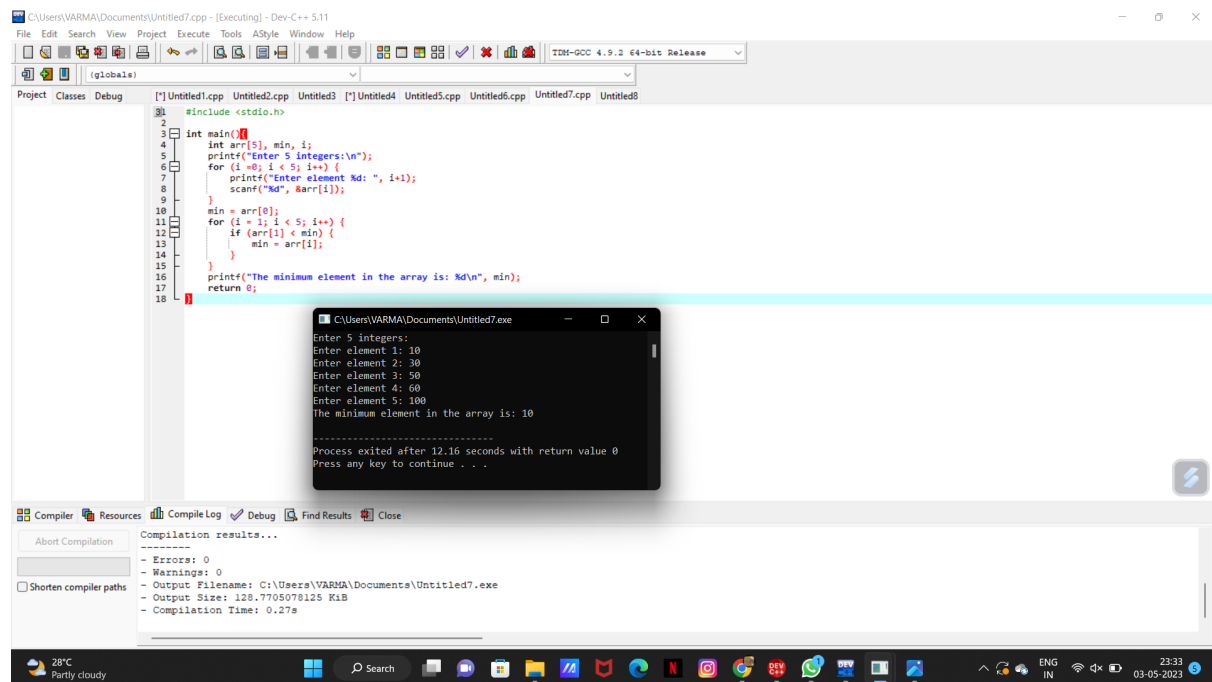
The execution output window shows the following text:

```
Enter 10 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 8.105 seconds with return value 0
Press any key to continue . . .
```

The compilation results window shows the following information:

```
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 the Dev-C++ IDE with a C++ program to find the minimum element in an array of 5 integers. The code is as follows:

```
#include <stdio.h>

int main()
{
    int arr[5], min, i;

    printf("Enter 5 integers:\n");
    for (i = 0; i < 5; i++) {
        printf("Enter element %d: ", i+1);
        scanf("%d", &arr[i]);
    }

    min = arr[0];
    for (i = 1; i < 5; i++) {
        if (arr[i] < min) {
            min = arr[i];
        }
    }

    printf("The minimum element in the array is: %d\n", min);

    return 0;
}
```

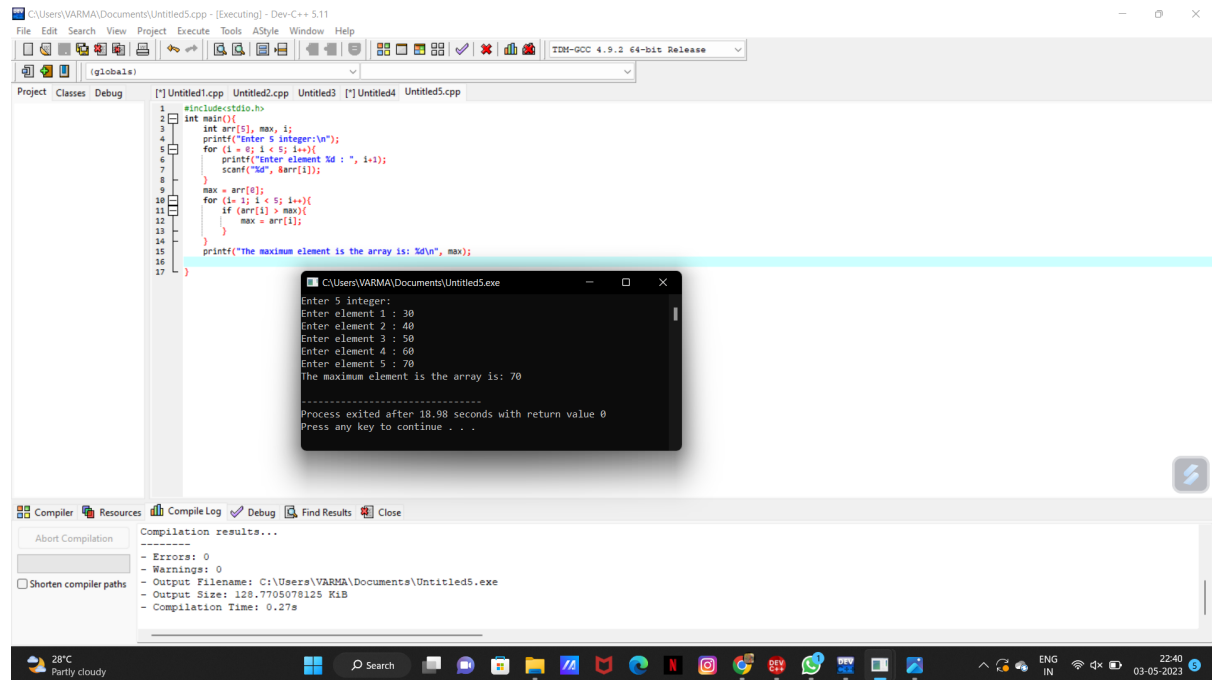
The execution output window shows the following text:

```
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 compilation results window shows the following information:

```
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



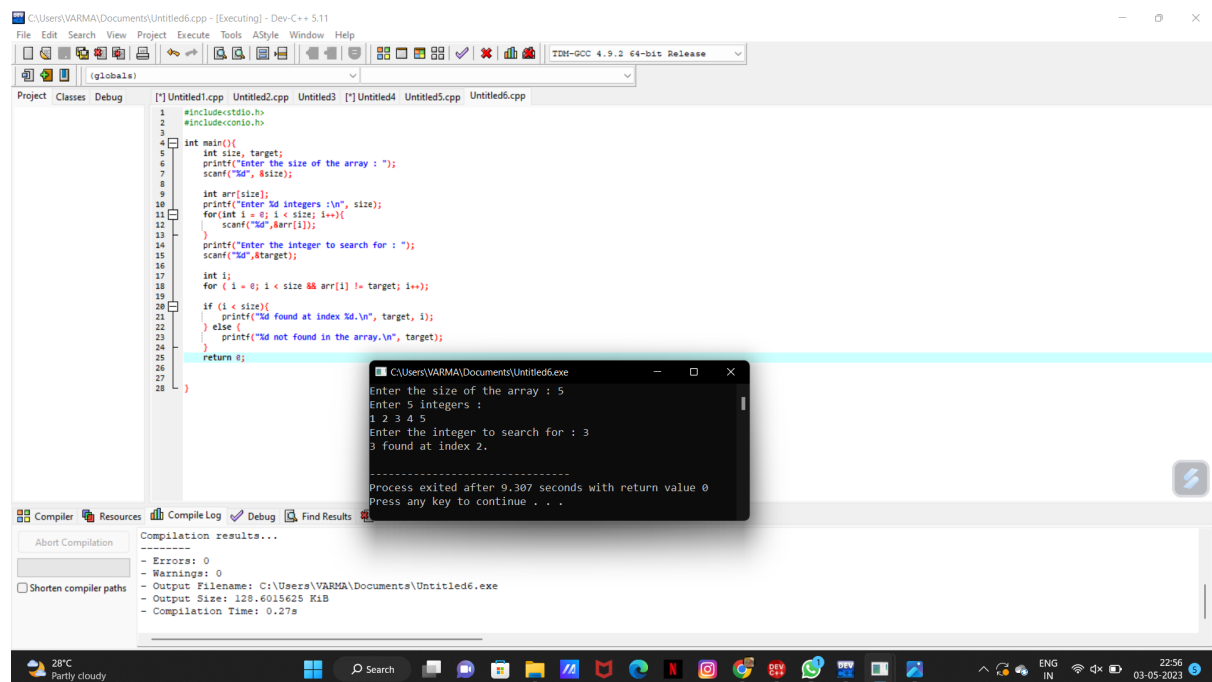
```
1 #include<stdio.h>
2 int main()
3 {
4     int arr[5], max, i;
5     printf("Enter 5 integers:\n");
6     for (i = 0; i < 5; i++){
7         printf("Enter element %d : ", i+1);
8         scanf("%d", &arr[i]);
9     }
10    max = arr[0];
11    for (i = 1; i < 5; i++){
12        if (arr[i] > max){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

Enter 5 integers:
Enter element 1 : 30
Enter element 2 : 40
Enter element 3 : 50
Enter element 4 : 60
Enter element 5 : 70
The maximum element is the array is: 70

Process exited after 18.98 seconds with return value 0
Press any key to continue . . .

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



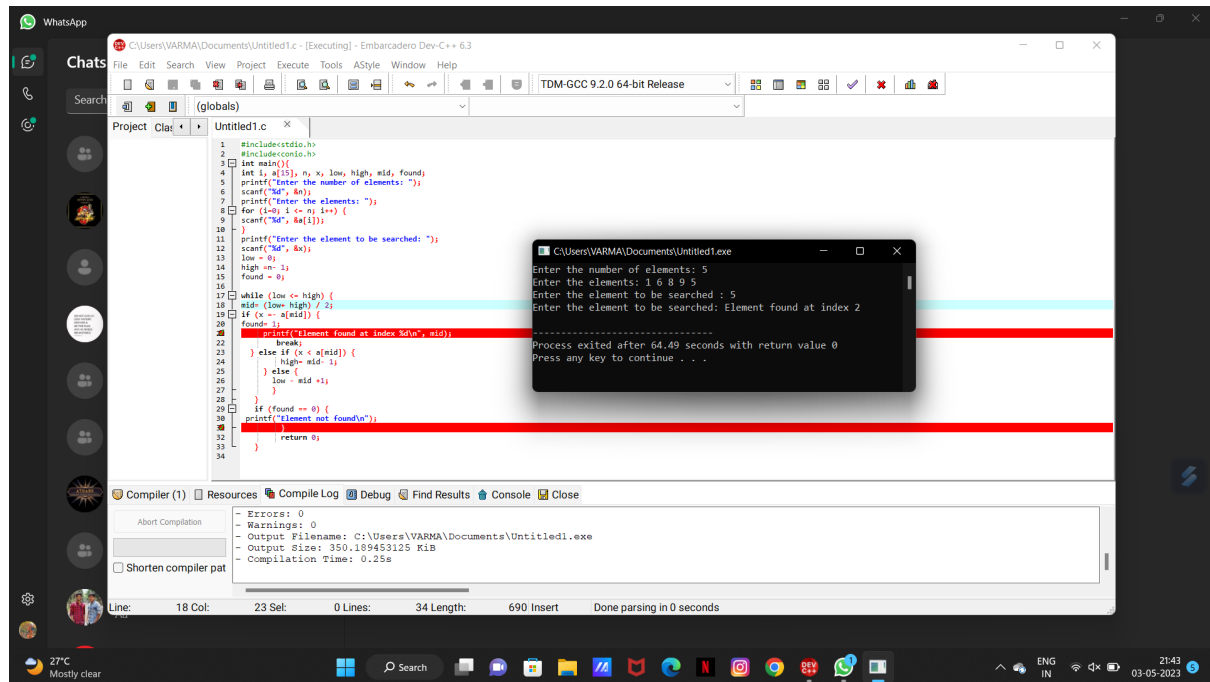
```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main()
5 {
6     int size, target;
7     printf("Enter the size of the array : ");
8     scanf("%d", &size);
9
10    int arr[size];
11    printf("Enter %d integers :\n", size);
12    for (int i = 0; i < size; i++){
13        scanf("%d", &arr[i]);
14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

Enter the size of the array : 5
Enter 5 integers :
1 2 3 4 5
Enter the integer to search for : 3
3 found at index 2.

Process exited after 9.307 seconds with return value 0
Press any key to continue . . .

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

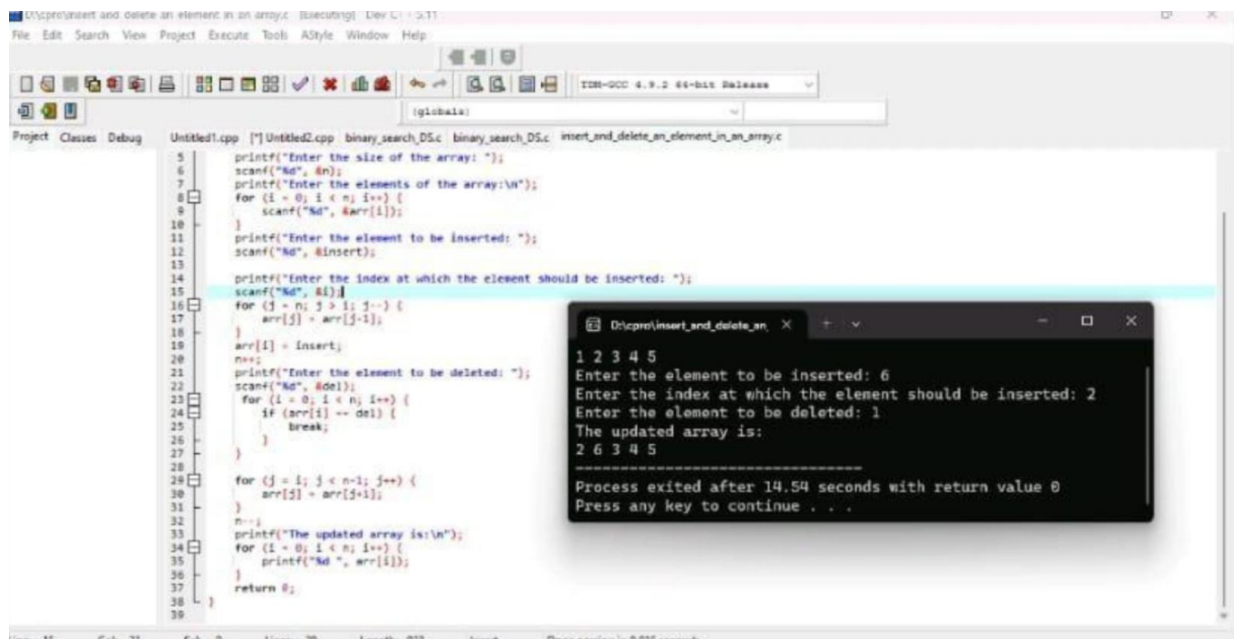


The screenshot shows a C++ IDE with a project named 'Untitled1.c'. The code implements a binary search algorithm. The output window shows the following input and output:

```
Enter the number of elements: 5
Enter the elements: 1 6 8 9 5
Enter the element to be searched: 5
Enter the element to be searched: Element found at index 2
-----
Process exited after 64.49 seconds with return value 0
Press any key to continue . . .
```

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

20. INSERT AND DELETE A ELEMENT IN AN ARRAY



The screenshot shows a C++ IDE with a project named 'Untitled2.cpp'. The code implements a program to insert and delete an element in an array. The output window shows the following input and output:

```
1 2 3 4 5
Enter the element to be inserted: 6
Enter the index at which the element should be inserted: 2
Enter the element to be deleted: 1
The updated array is:
2 6 3 4 5
-----
Process exited after 14.54 seconds with return value 0
Press any key to continue . . .
```

```
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", &i);
15    for (j = n; j > i; j--) {
16        arr[j] = arr[j-1];
17    }
18    arr[i] = 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 }
```

21. INITIALIZATION AND PRINTING OF 2-D ARRAY

The screenshot displays the Dev-C++ IDE interface. The main editor window shows a C++ program that initializes a 2D array and prints its elements. The code is as follows:

```
1 #include<stdio.h>
2 #include<conio.h>
3
4 int main()
5 {
6     int a[10][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 displays the input values and the array elements in a 2x3 grid:

```
Enter the number of rows : 2
Enter the number of columns : 3
1 2 3 4
123
4
```

The bottom panel of the IDE 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: 128.7734375 KiB
- Compilation Time: 0.25s
```