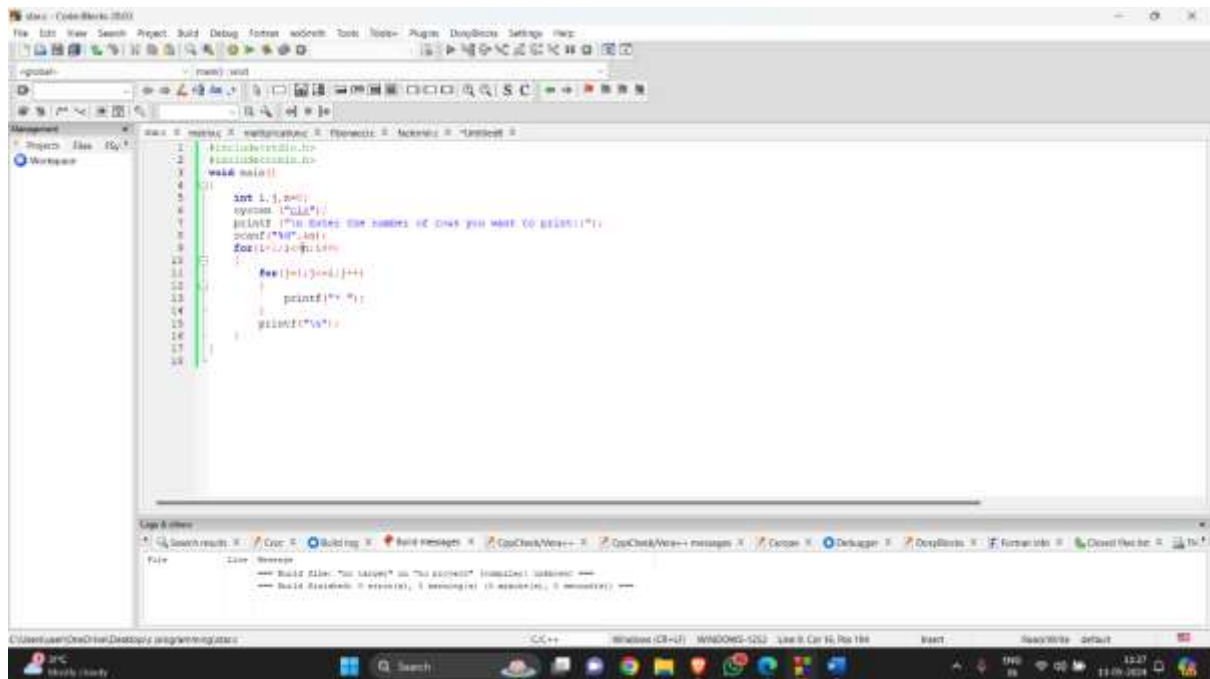


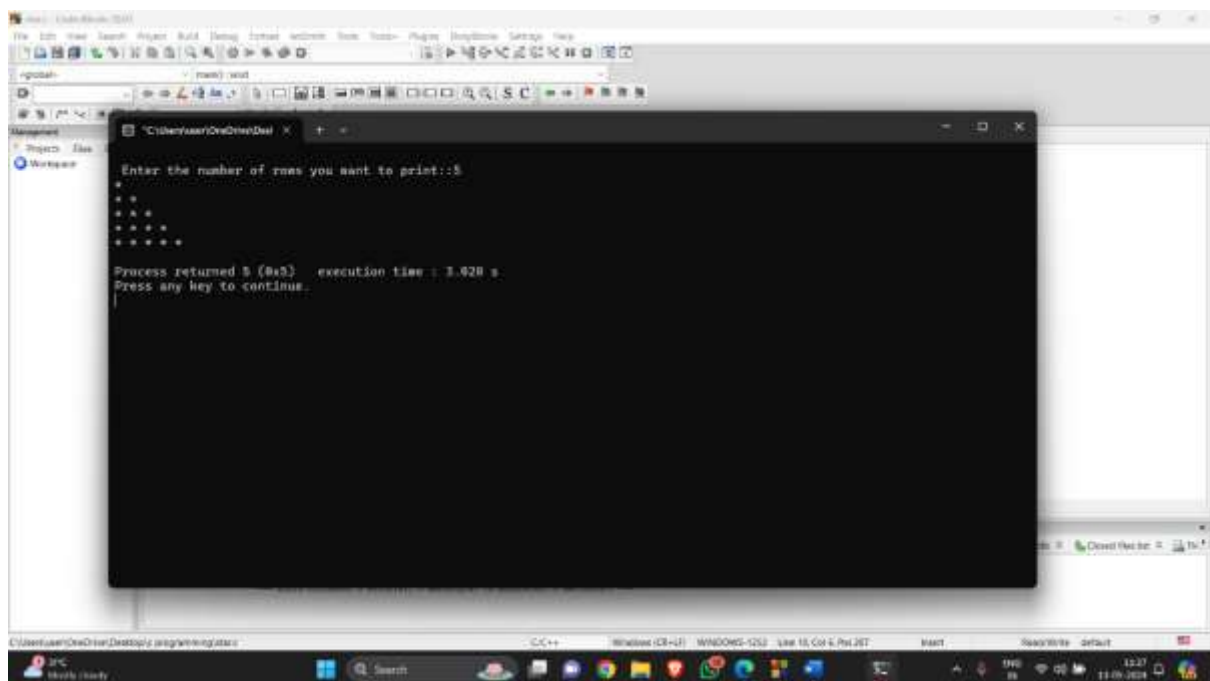
1. Print star using for loop?

Source code



```
1 #include <iostream.h>
2 #include <conio.h>
3 using namespace std;
4 int main()
5 {
6     int i,j,row;
7     system("cls");
8     cout << "Enter the number of rows you want to print: ";
9     int n;
10    for(i=1;i<=n;i++)
11    {
12        for(j=1;j<=i;j++)
13        {
14            cout << " * ";
15        }
16        cout << "\n";
17    }
18 }
```

Output:

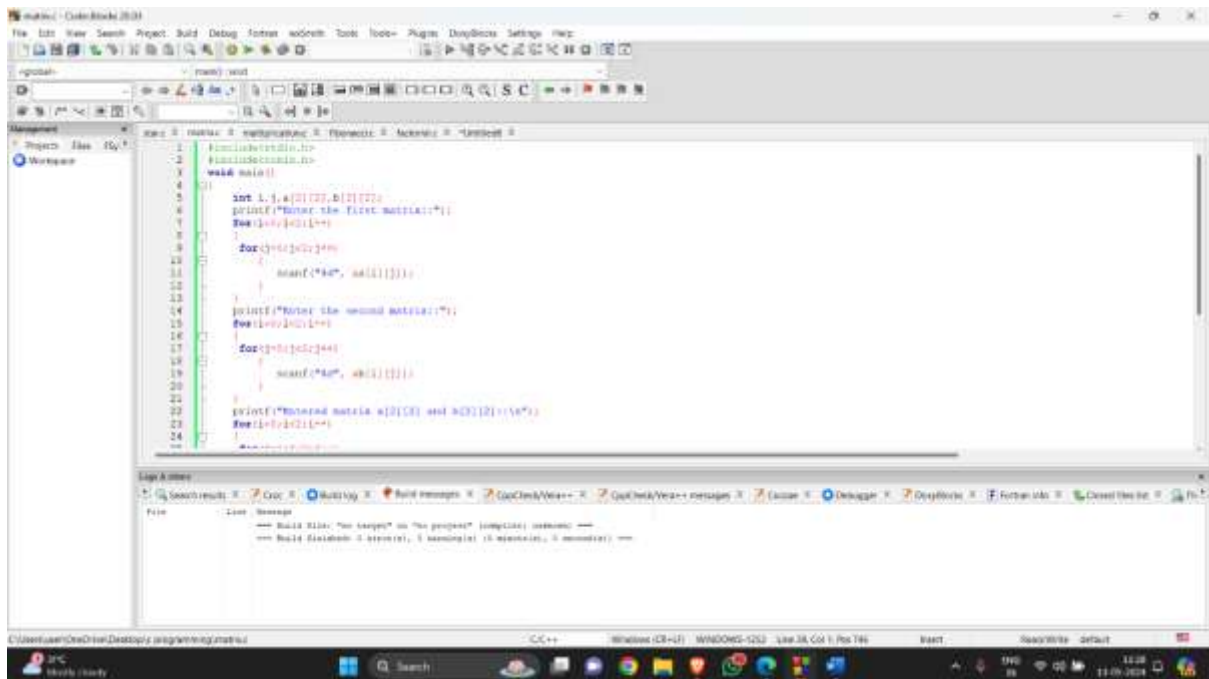


```
Enter the number of rows you want to print:5
*
* *
* * *
* * * *
* * * * *

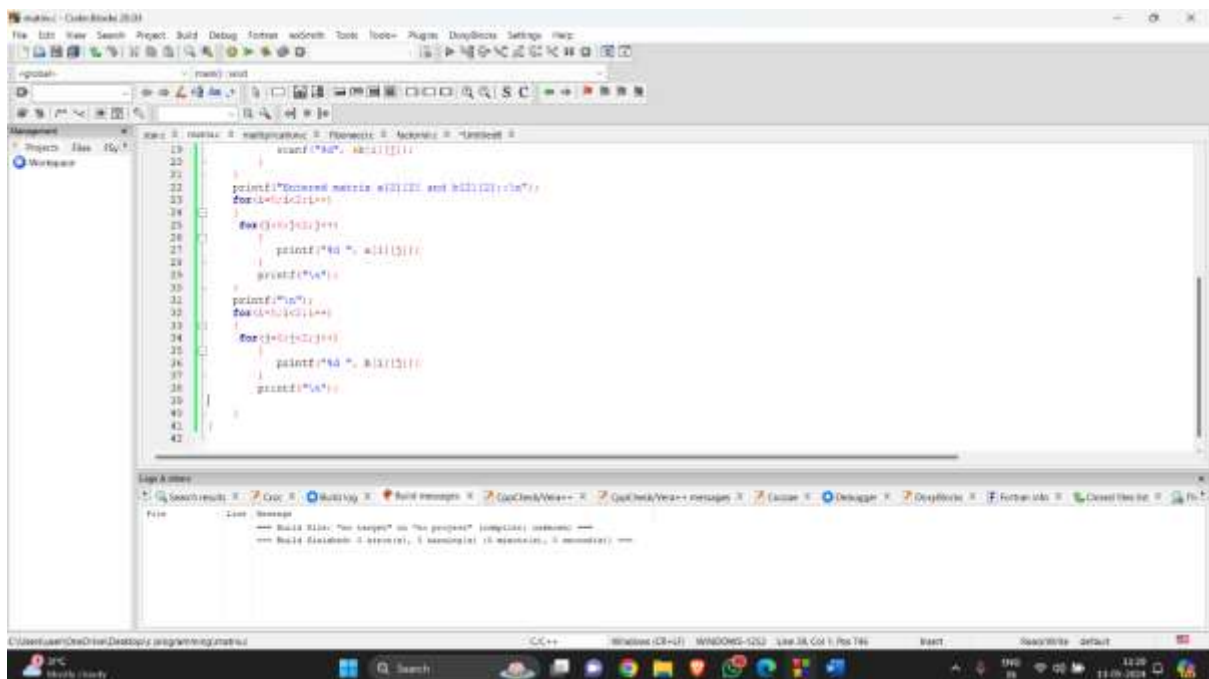
Process returned 0 (0x0)   execution time : 3.928 s
Press any key to continue.
```

2. Print two matrix

Source code

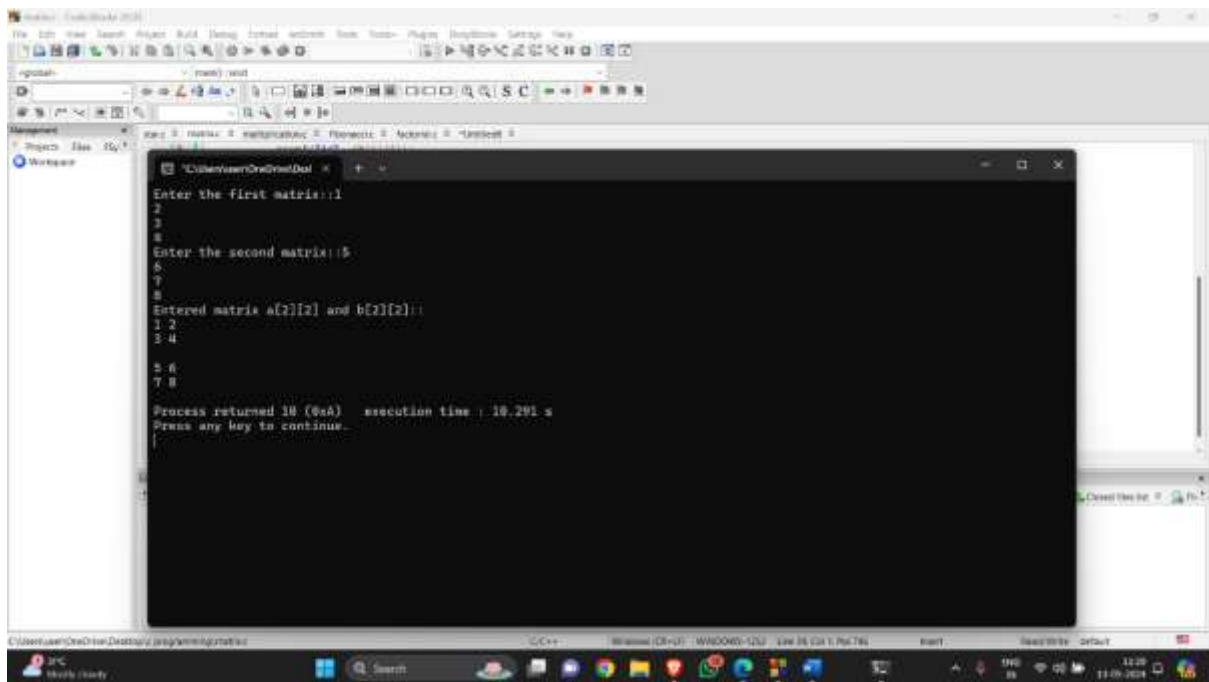


```
1 //include header file
2 #include <iostream.h>
3 using namespace std;
4 int main()
5 {
6     int i,j,k;
7     print("Enter the first matrix:");
8     for(i=0;i<2;i++)
9     {
10         for(j=0;j<2;j++)
11             scanf("%d",&a[i][j]);
12     }
13     print("Enter the second matrix:");
14     for(i=0;i<2;i++)
15     {
16         for(j=0;j<2;j++)
17             scanf("%d",&b[i][j]);
18     }
19     print("Enter matrix a[2][2] and b[2][2]:");
20     for(i=0;i<2;i++)
21     {
22         for(j=0;j<2;j++)
23             scanf("%d",&c[i][j]);
24     }
```



```
19     scanf("%d",&c[i][j]);
20 }
21 print("Enter matrix a[2][2] and b[2][2]:");
22 for(i=0;i<2;i++)
23 {
24     for(j=0;j<2;j++)
25         print("%d ",a[i][j]);
26     print("\n");
27     for(i=0;i<2;i++)
28     {
29         for(j=0;j<2;j++)
30             print("%d ",b[i][j]);
31     }
32     print("\n");
33     for(i=0;i<2;i++)
34     {
35         for(j=0;j<2;j++)
36             print("%d ",c[i][j]);
37     }
38     print("\n");
39 }
```

Output:



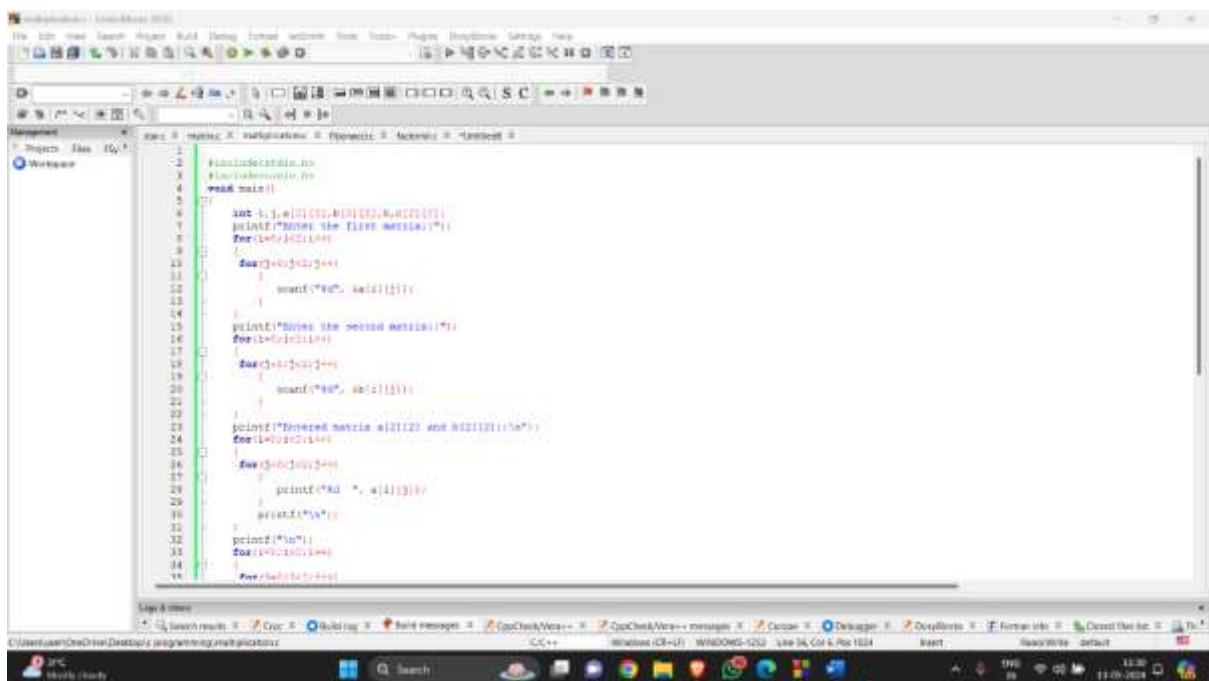
The screenshot shows a Windows desktop with a Visual Studio Code window open. The console window displays the output of a C++ program. The program prompts the user to enter two matrices. The first matrix is entered as a 3x3 matrix with values 1, 2, 3, 4, 5, 6, 7, 8, 9. The second matrix is entered as a 3x3 matrix with values 1, 2, 3, 4, 5, 6, 7, 8, 9. The program then prints the product of the two matrices, which is a 3x3 matrix with values 10, 20, 30, 40, 50, 60, 70, 80, 90. The execution time is 10.291 s.

```
Enter the first matrix::1
2
3
4
5
6
7
8
9
Enter the second matrix::1
2
3
4
5
6
7
8
9
Entered matrix a[2][2] and b[2][2]:
1 2
3 4
5 6
7 8
9 0

Process returned 10 (0x0A)   execution time : 10.291 s
Press any key to continue.
```

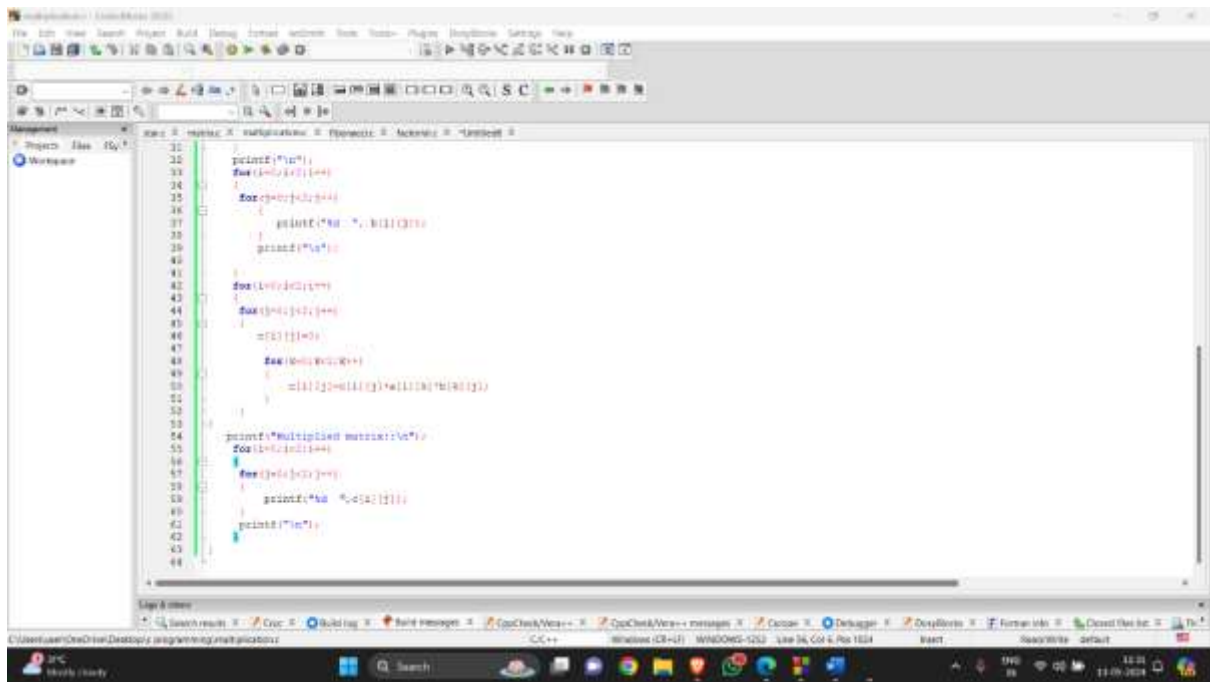
3. Multiplication of two matrix

Source code

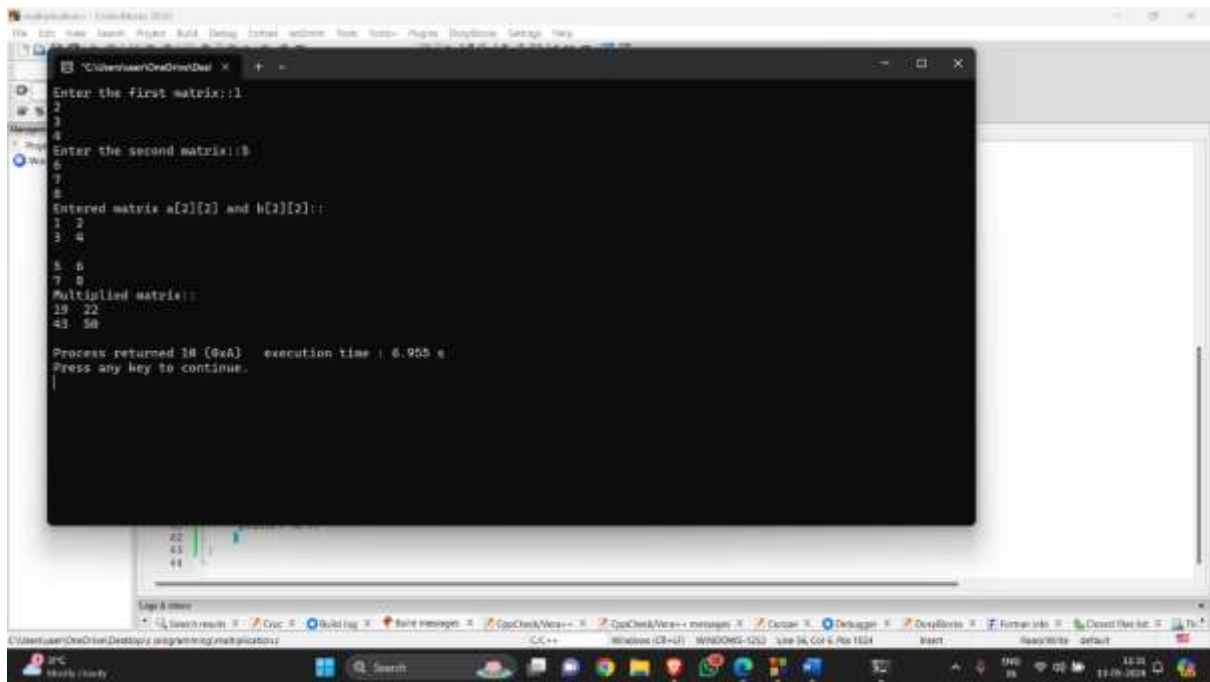


The screenshot shows a Windows desktop with a Visual Studio Code window open. The code editor displays the source code of a C++ program for matrix multiplication. The program defines two 3x3 matrices, a and b, and calculates their product. The code is as follows:

```
1 #include <iostream.h>
2 using namespace std;
3 void main()
4 {
5     int a[3][3], b[3][3], c[3][3];
6     cout << "Enter the first matrix:" << endl;
7     for (int i = 0; i < 3; i++)
8     {
9         for (int j = 0; j < 3; j++)
10         {
11             cin >> a[i][j];
12         }
13     }
14     cout << "Enter the second matrix:" << endl;
15     for (int i = 0; i < 3; i++)
16     {
17         for (int j = 0; j < 3; j++)
18         {
19             cin >> b[i][j];
20         }
21     }
22     cout << "Entered matrix a[2][2] and b[2][2]:" << endl;
23     for (int i = 0; i < 3; i++)
24     {
25         for (int j = 0; j < 3; j++)
26         {
27             c[i][j] = 0;
28             for (int k = 0; k < 3; k++)
29             {
30                 c[i][j] += a[i][k] * b[k][j];
31             }
32         }
33     }
34     for (int i = 0; i < 3; i++)
35     {
36         for (int j = 0; j < 3; j++)
37         {
38             cout << c[i][j] << " ";
39         }
40     }
```

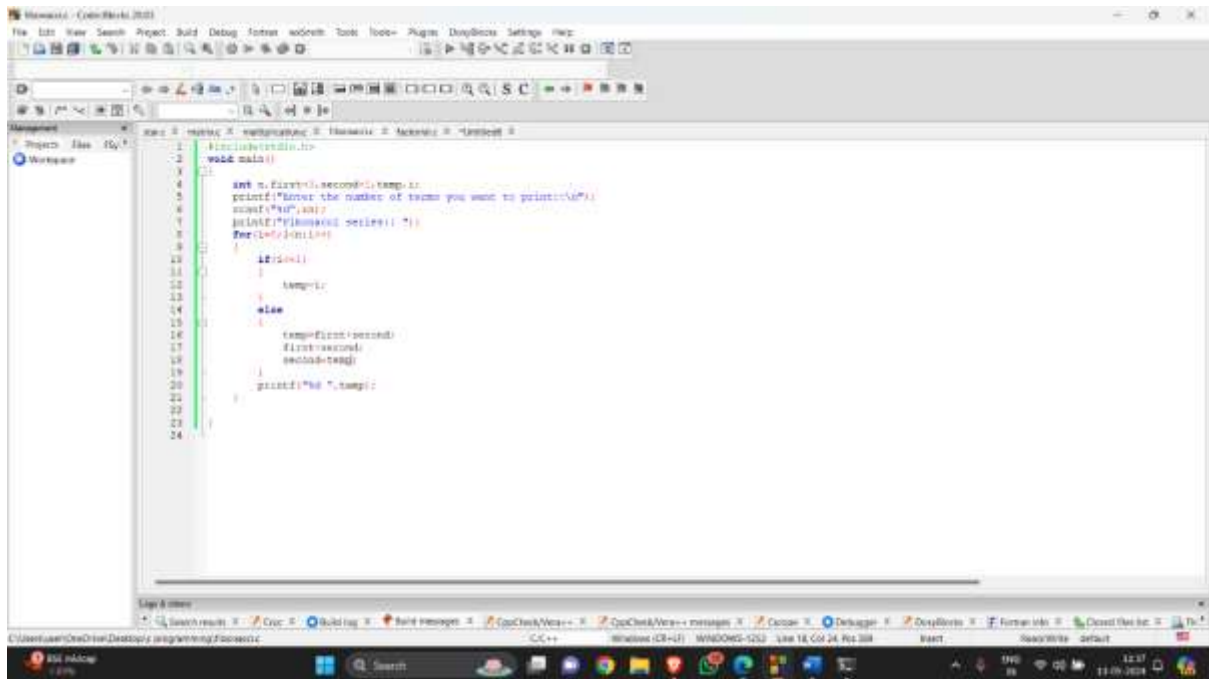


Output:



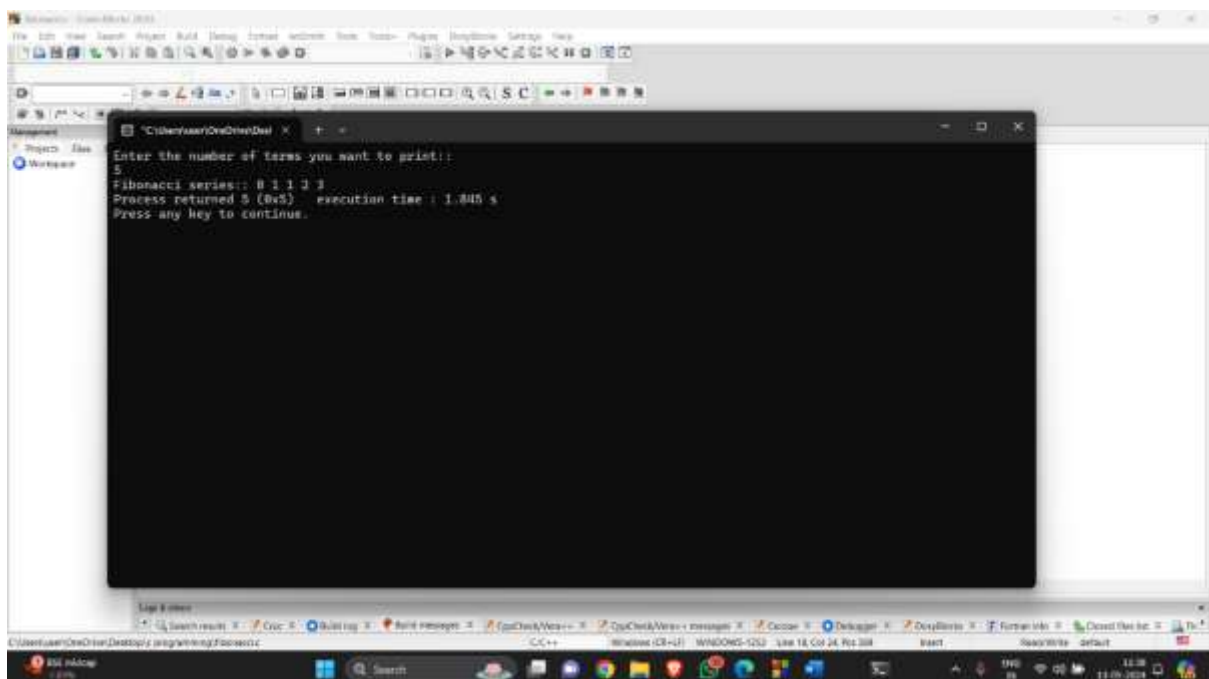
4. Fibonacci series

Source code



```
1 //fibonacci.cpp
2
3 void main()
4 {
5     int n, first=0, second=1, temp=1;
6     printf("Enter the number of terms you want to print::\n");
7     scanf("%d",&n);
8     printf("Fibonacci series:: ");
9     for(i=0;i<n;i++)
10     {
11         if(i%5==0)
12             temp=1;
13         else
14             temp=first+second;
15         first=second;
16         second=temp;
17         printf("%d ",temp);
18     }
19 }
```

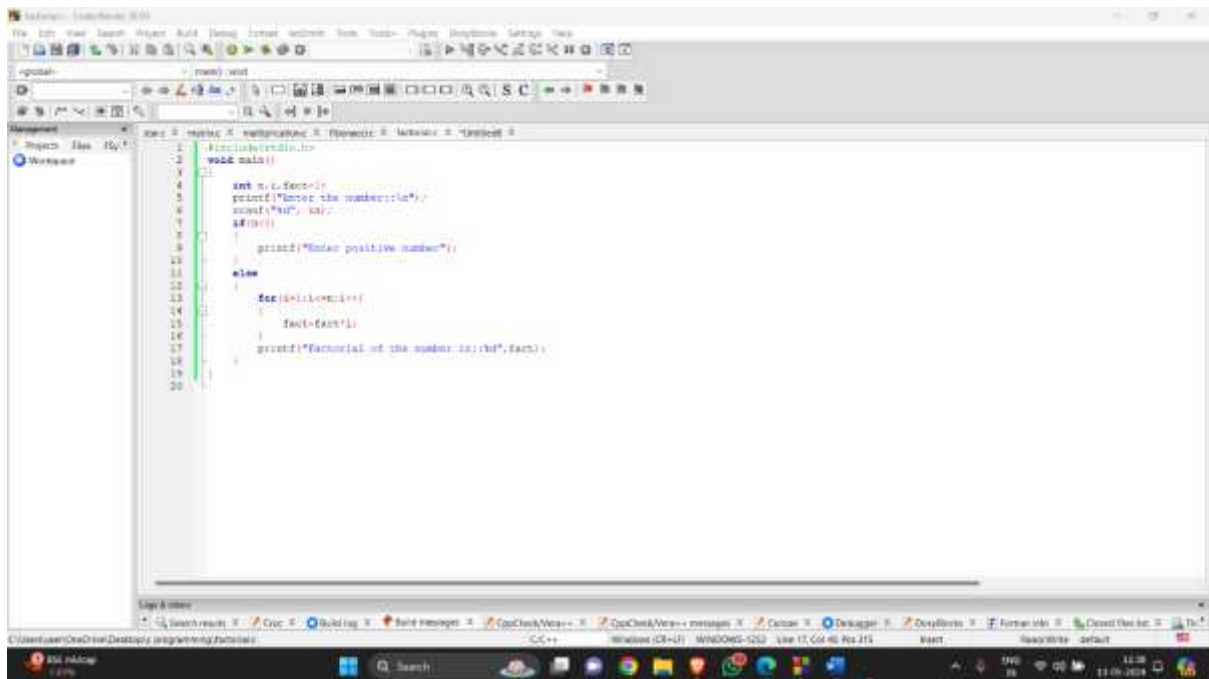
Output:



```
Enter the number of terms you want to print::
5
Fibonacci series:: 0 1 1 2 3
Process returned 5 (0x5)   execution time : 1.845 s
Press any key to continue.
```

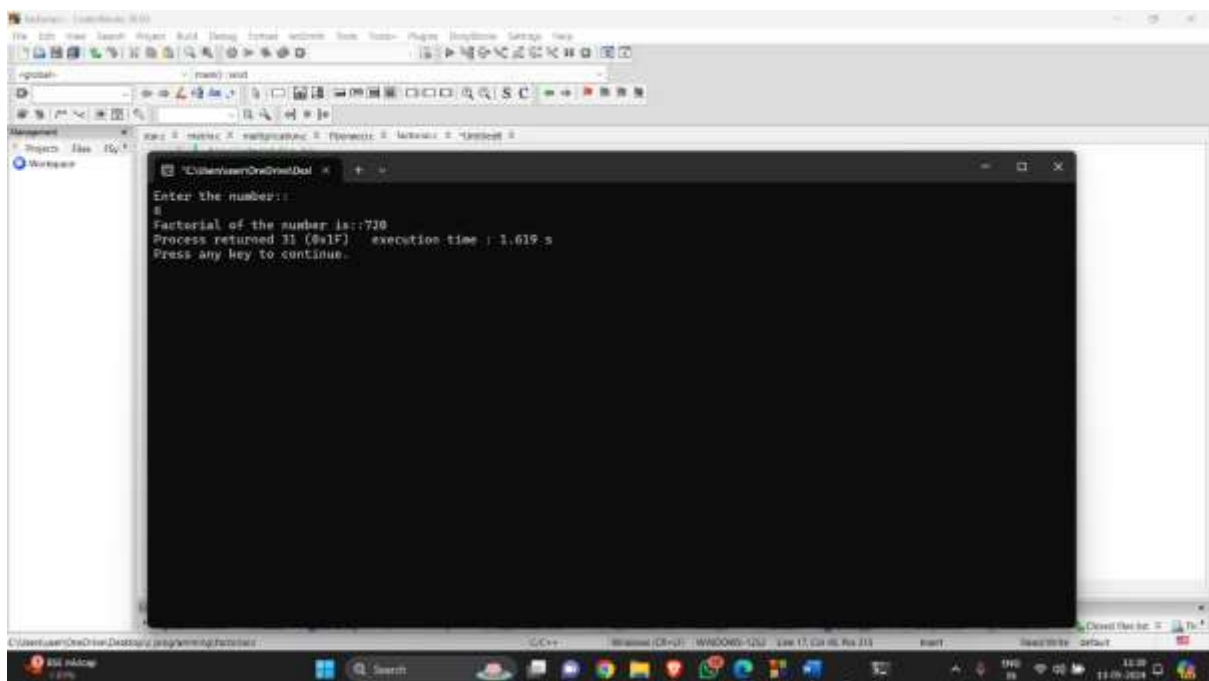
5. Factorial

Source code



```
1 //include <iostream.h>
2
3 void main()
4 {
5     int n,i,fact=1;
6     printf("Enter the number::");
7     scanf("%d",&n);
8     if(n<0)
9     {
10        printf("Enter positive number");
11    }
12    else
13    {
14        for(i=1;i<=n;i++)
15        {
16            fact=fact*i;
17        }
18        printf("Factorial of the number is::%d",fact);
19    }
20 }
```

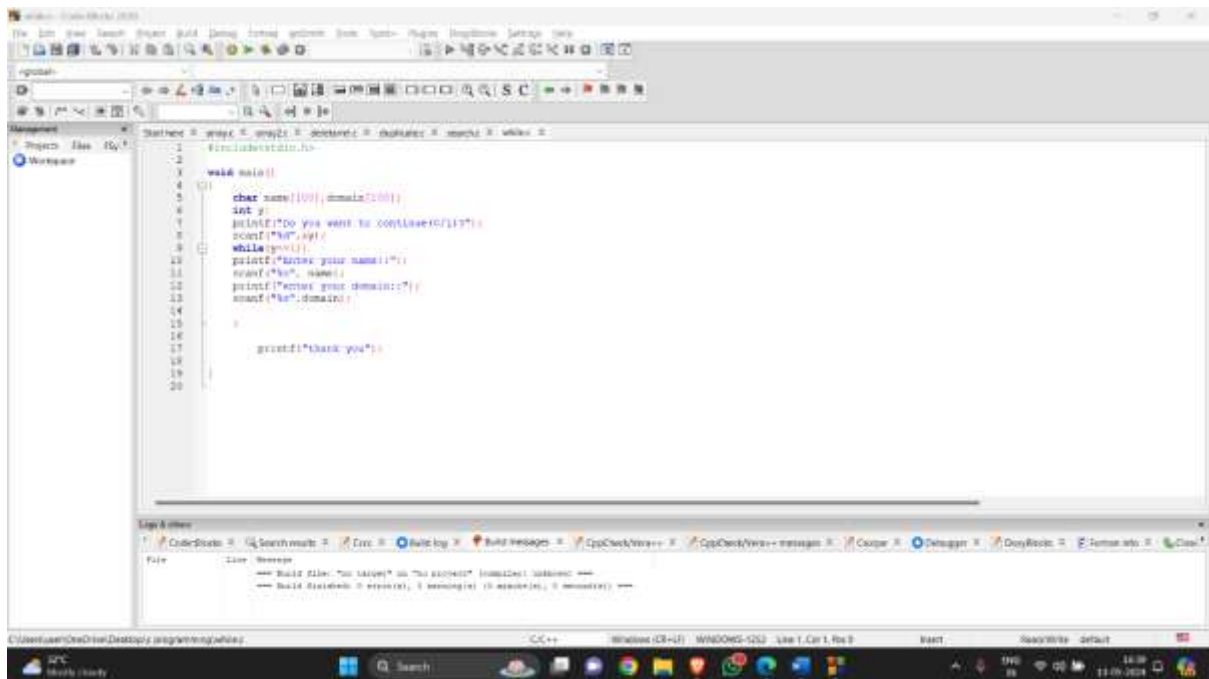
Output:



```
Enter the number::
8
Factorial of the number is:720
Process returned 31 (0x1F)   execution time : 1.619 s
Press any key to continue.
```

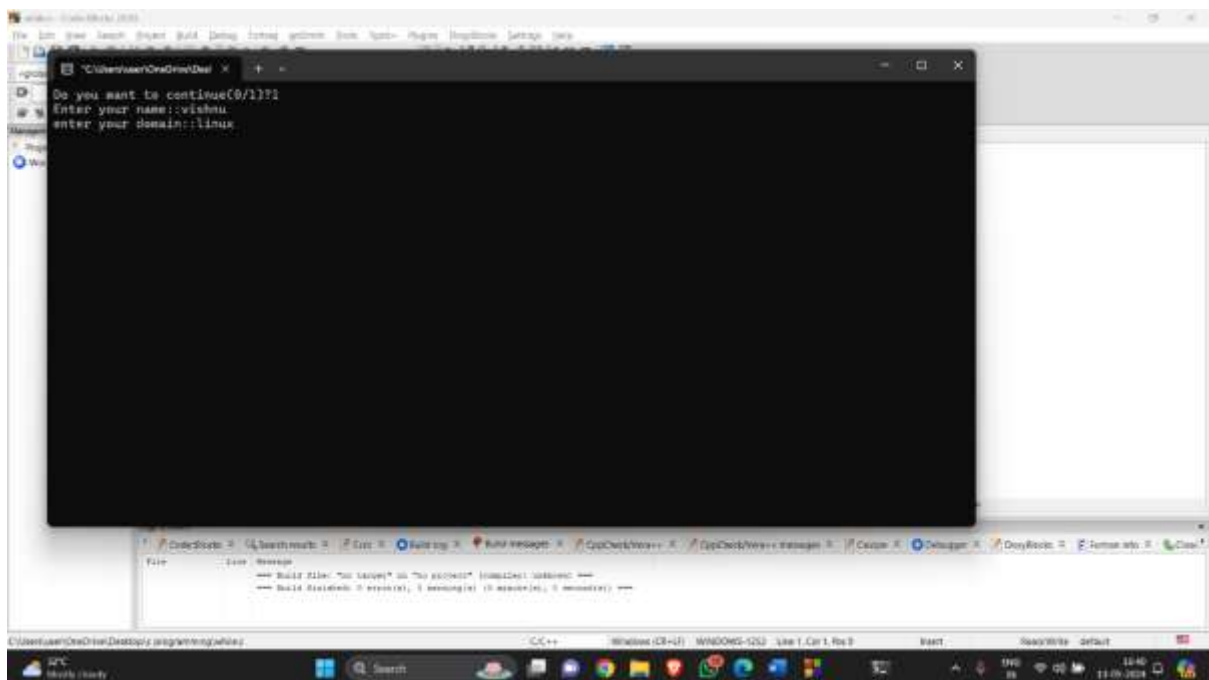
6. Printing name and domain While loop

Source code



```
1 //...
2
3 void main()
4 {
5     char name[100], domain[50];
6     int y;
7     printf("Do you want to continue(y/n)?");
8     scanf("%d", &y);
9     while(y==1)
10     {
11         printf("Enter your name:");
12         scanf("%s", name);
13         printf("Enter your domain:");
14         scanf("%s", domain);
15     }
16     printf("Thank you");
17 }
18
19
20
```

Output:



```
Do you want to continue(0/1)?1
Enter your name:vishnu
Enter your domain:linux
```

7. Printing name and domain While loop

Source code

The screenshot displays the Visual Studio Code editor interface on a Windows 10 desktop. The editor is open to a file named `main.cpp` in the `src` directory. The code is a C++ program for a simple calculator. It prompts the user to enter two numbers and an operator, then performs the corresponding arithmetic operation. The code is as follows:

```

1 // Simple calculator
2
3 #include <iostream>
4
5 using namespace std;
6
7 int main()
8 {
9     char name[100], domain[200];
10    int x;
11    do
12    {
13        printf("Enter your name::");
14        scanf("%s", name);
15        printf("Enter your domain::");
16        scanf("%s", domain);
17        printf("Do you want to continue(Y/N)?");
18        scanf("%d", &x);
19    }
20    while(x==1);
21    printf("Thank you");
22    return 0;
23 }

```

The Visual Studio Code interface includes a sidebar on the left with the 'Explorer' view showing the project structure. The 'Run and Debug' view at the bottom shows the output of the program, which is 'Enter two numbers and an operator:'. The status bar at the bottom indicates the file is `main.cpp` in the `src` directory, and the window title is 'Visual Studio Code'.

Output:

The screenshot shows a Windows 10 desktop with a taskbar at the bottom. A terminal window titled "C:\Users\OneDrive\Desktop" is open, displaying the output of a C++ program. The program prompts the user for a name and domain, and then displays the execution time. The output is as follows:

```

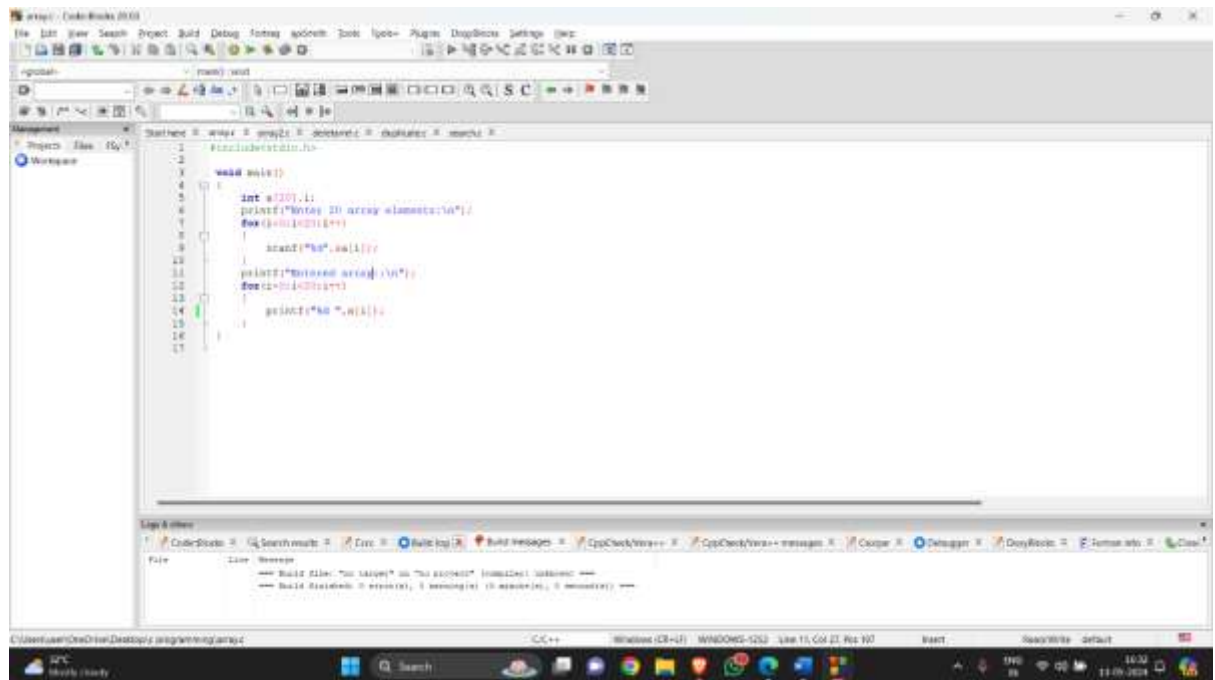
Enter your name::Vishnu
enter your domain::Linux
Do you want to continue(0/1)?0
thank you
Process returned 9 (0x9)   execution time : 0.015 s
Press any key to continue.

```

The taskbar at the bottom shows the Start button, a search bar, and several pinned applications including File Explorer, Microsoft Edge, and the Windows Security app. The system tray on the right shows the date and time as 10/10/2023, 11:09 AM.

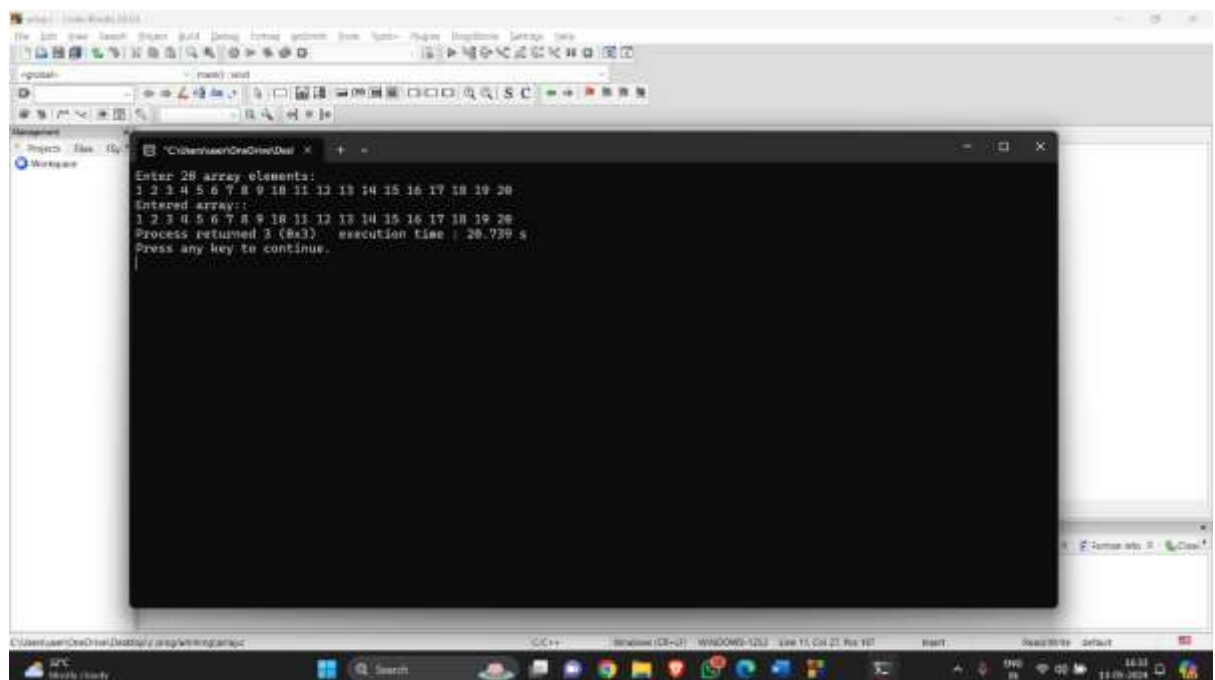
8. Printing one dimensionally array

Source code



```
1 //main.cpp
2
3 #include <iostream>
4
5 using namespace std;
6
7 int main()
8 {
9     int a[20];
10    printf("Enter 20 array elements:\n");
11    for(i=0;i<20;i++)
12    {
13        scanf("%d",&a[i]);
14    }
15    printf("Entered array:\n");
16    for(i=0;i<20;i++)
17    {
18        printf("%d ",a[i]);
19    }
20 }
```

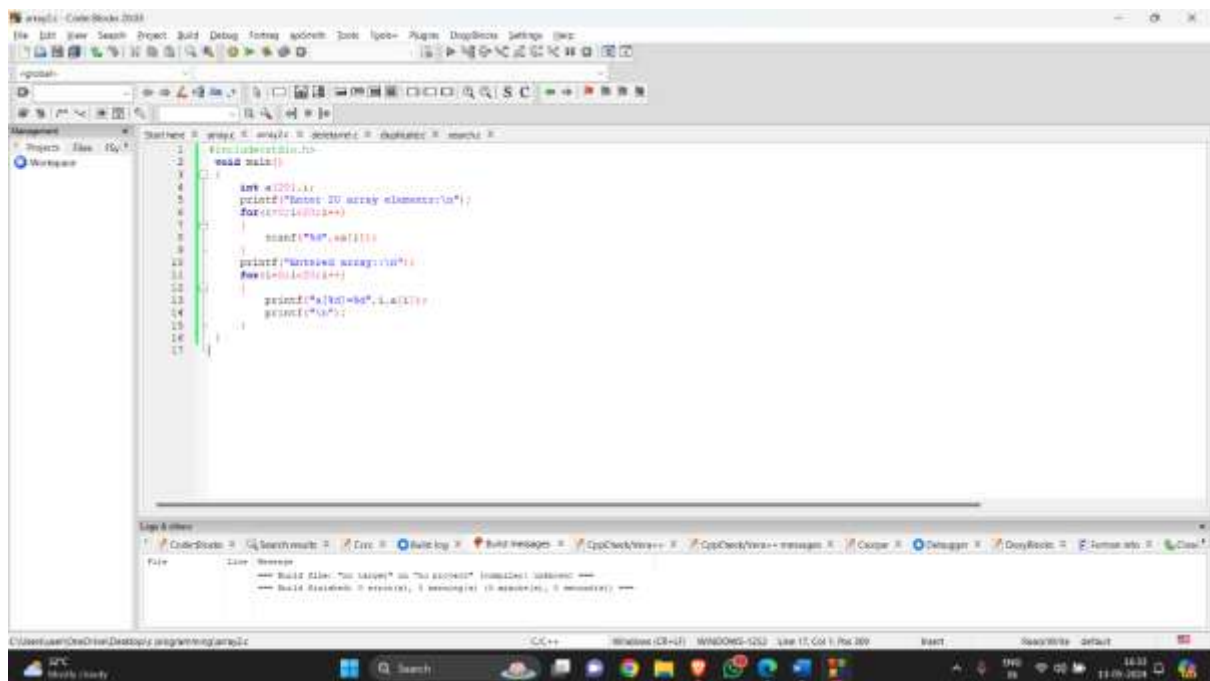
Output:



```
Enter 20 array elements:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Entered array:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Process returned 3 (0x3)   execution time : 20.739 s
Press any key to continue.
```

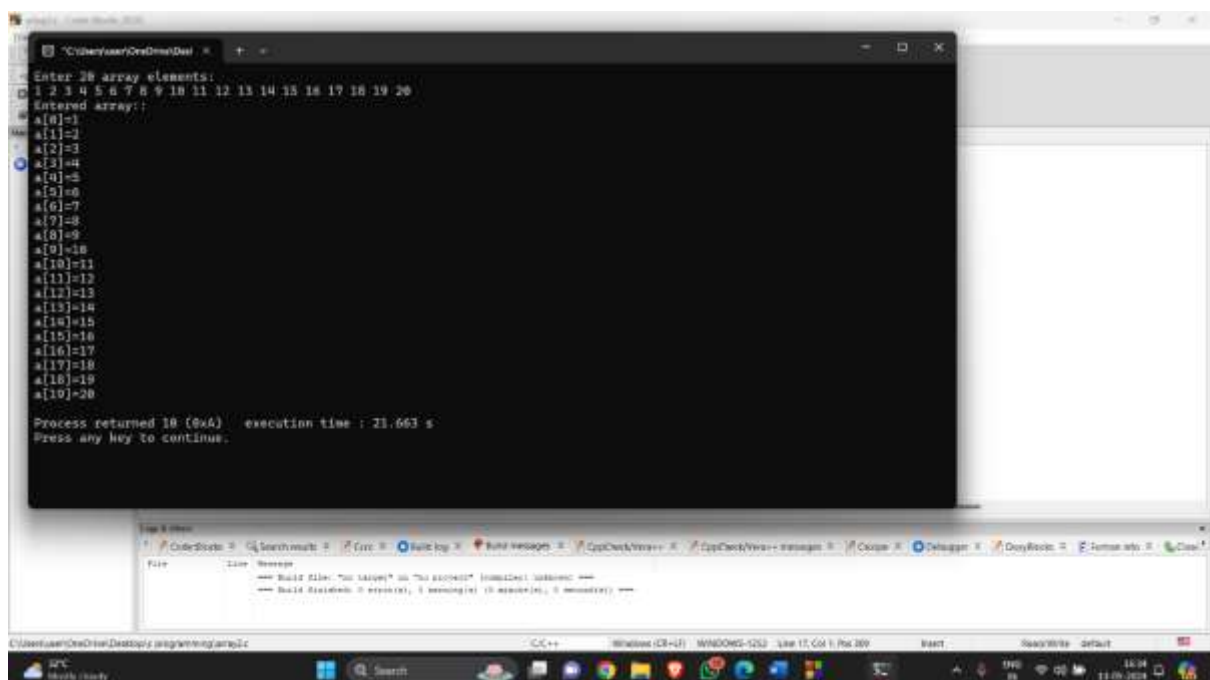
9. Printing array out put in a[0]=n format

Source code



```
1 //array.c
2 #include <stdio.h>
3 void main()
4 {
5     int a[20];
6     printf("Enter 20 array elements:\n");
7     for(i=0; i<20; i++)
8     {
9         scanf("%d", &a[i]);
10    }
11    printf("Entered array:\n");
12    for(i=0; i<20; i++)
13    {
14        printf("a[%d]=%d", i, a[i]);
15        printf("\n");
16    }
17 }
```

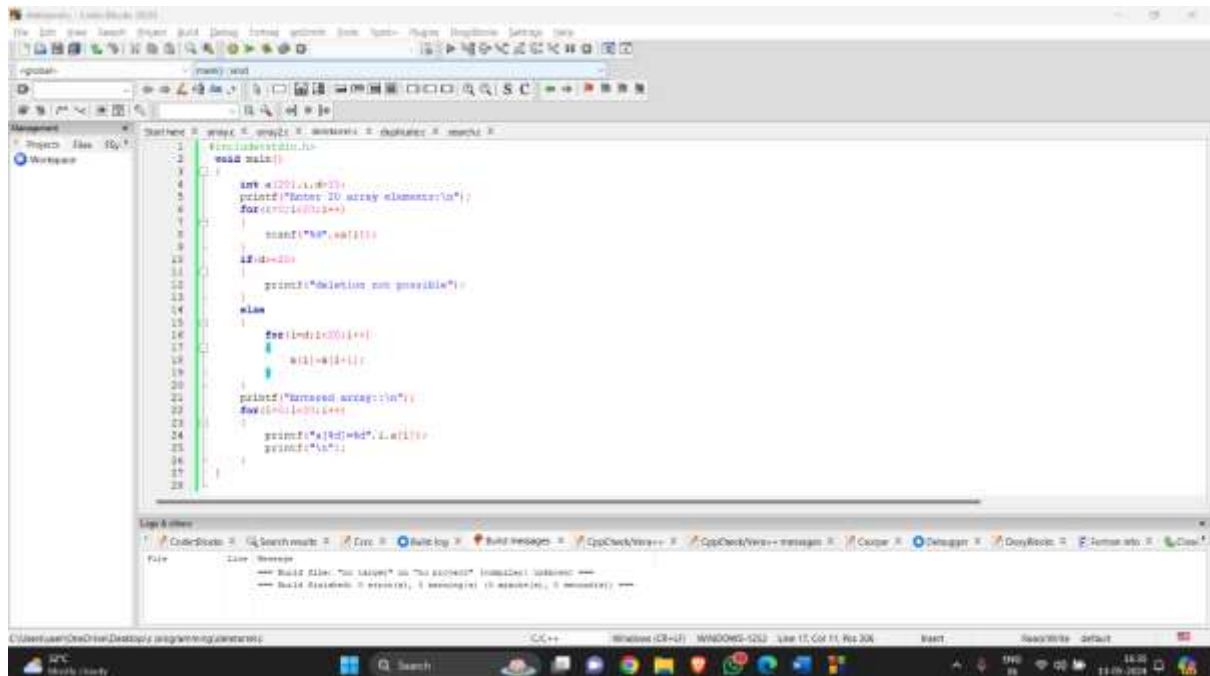
Output:



```
Enter 20 array elements:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Entered array:
a[0]=1
a[1]=2
a[2]=3
a[3]=4
a[4]=5
a[5]=6
a[6]=7
a[7]=8
a[8]=9
a[9]=10
a[10]=11
a[11]=12
a[12]=13
a[13]=14
a[14]=15
a[15]=16
a[16]=17
a[17]=18
a[18]=19
a[19]=20
Process returned 0 (0x0)   execution time : 21.663 s
Press any key to continue.
```

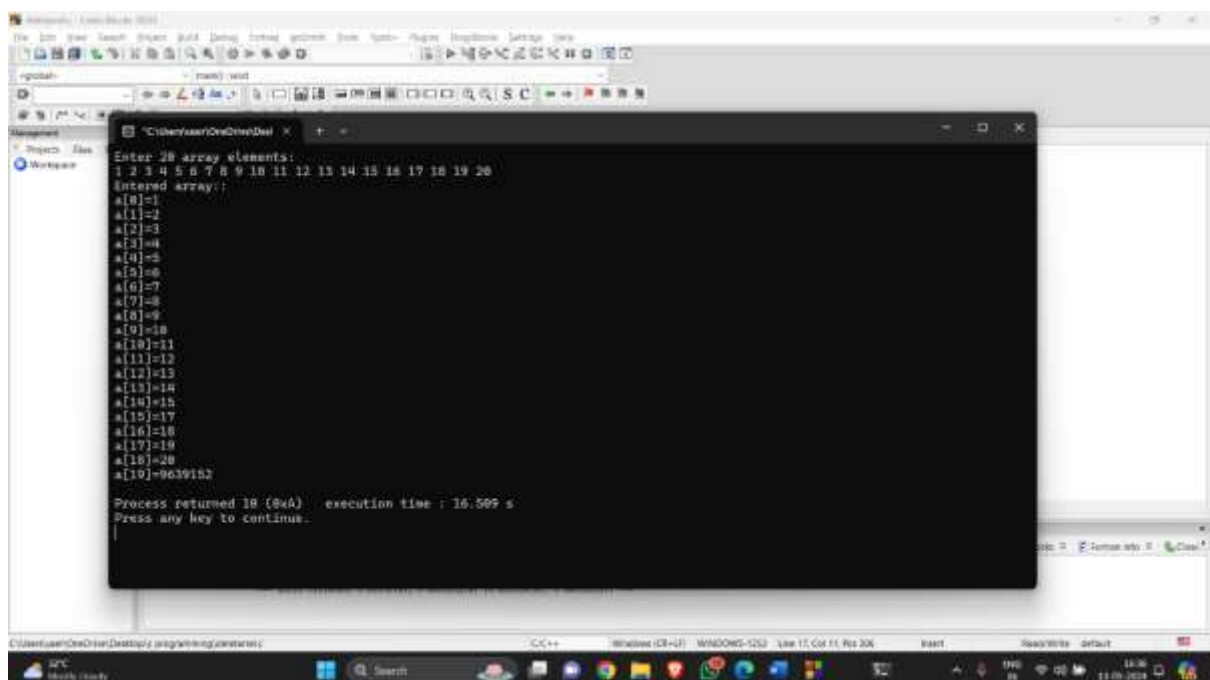
10. Deleting array element

Source code



```
1 //Deleting array element
2 #include<iostream.h>
3 using namespace std;
4 int a[20],i,d=20;
5 printf("Enter 20 array elements:\n");
6 for(i=0;i<20;i++)
7 {
8     scanf("%d",&a[i]);
9 }
10 if(d==20)
11     printf("Deletion not possible");
12 else
13 {
14     for(i=d;i<20;i++)
15     {
16         a[i]=a[i+1];
17     }
18     printf("Deleted array:\n");
19     for(i=0;i<20;i++)
20     {
21         printf("%d\t",a[i]);
22     }
23 }
```

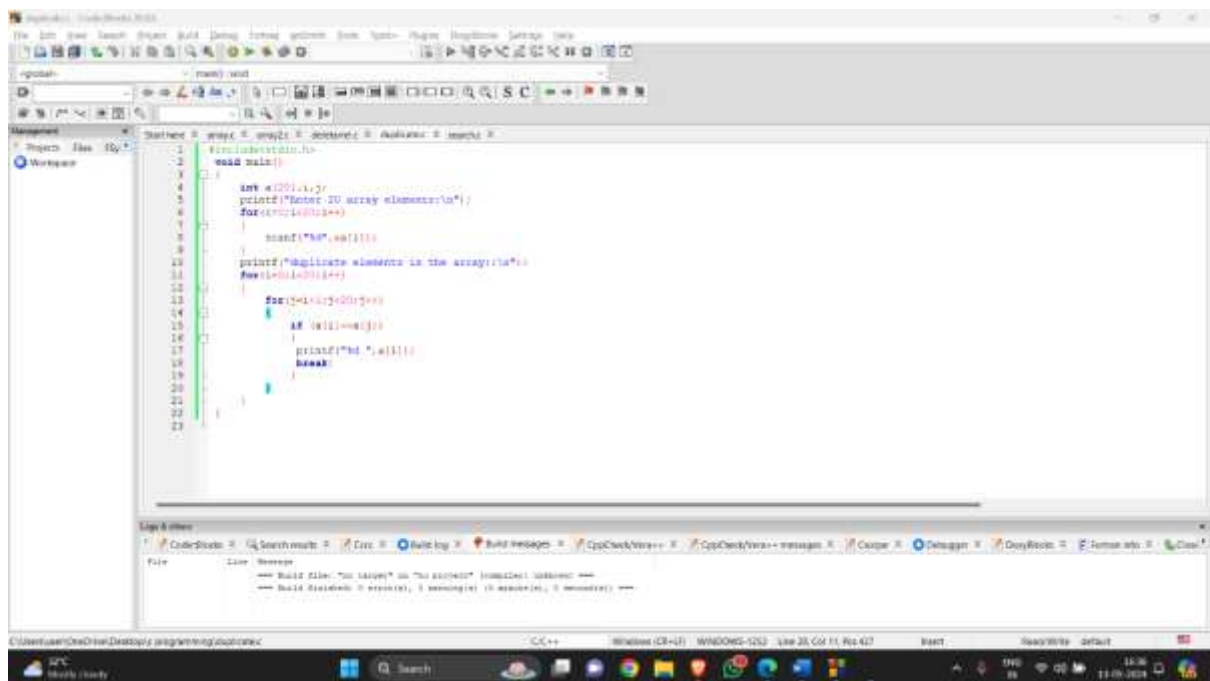
Output:



```
Enter 20 array elements:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Entered array:
a[0]=1
a[1]=2
a[2]=3
a[3]=4
a[4]=5
a[5]=6
a[6]=7
a[7]=8
a[8]=9
a[9]=10
a[10]=11
a[11]=12
a[12]=13
a[13]=14
a[14]=15
a[15]=17
a[16]=18
a[17]=19
a[18]=20
a[19]=9639152
Process returned 18 (0x4)   execution time : 16.509 s
Press any key to continue.
```

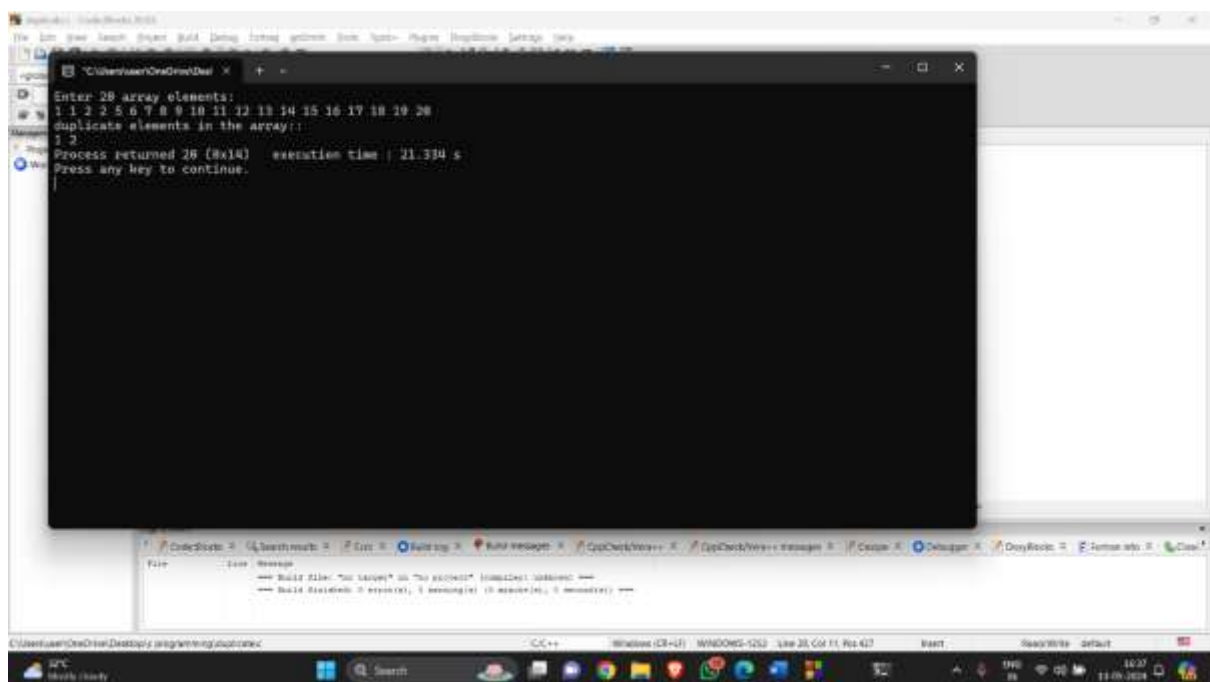
11. Find duplicate element in array

Source code



```
1 // Find duplicate element in array
2 #include <iostream.h>
3 using namespace std;
4
5 int main()
6 {
7     int a[20];
8     printf("Enter 20 array elements:\n");
9     for(i=0; i<20; i++)
10     {
11         scanf("%d", &a[i]);
12     }
13     printf("Duplicate elements in the array:\n");
14     for(i=0; i<20; i++)
15     {
16         for(j=i+1; j<20; j++)
17         {
18             if(a[i]==a[j])
19             {
20                 printf("%d ", a[i]);
21                 break;
22             }
23         }
24     }
25 }
```

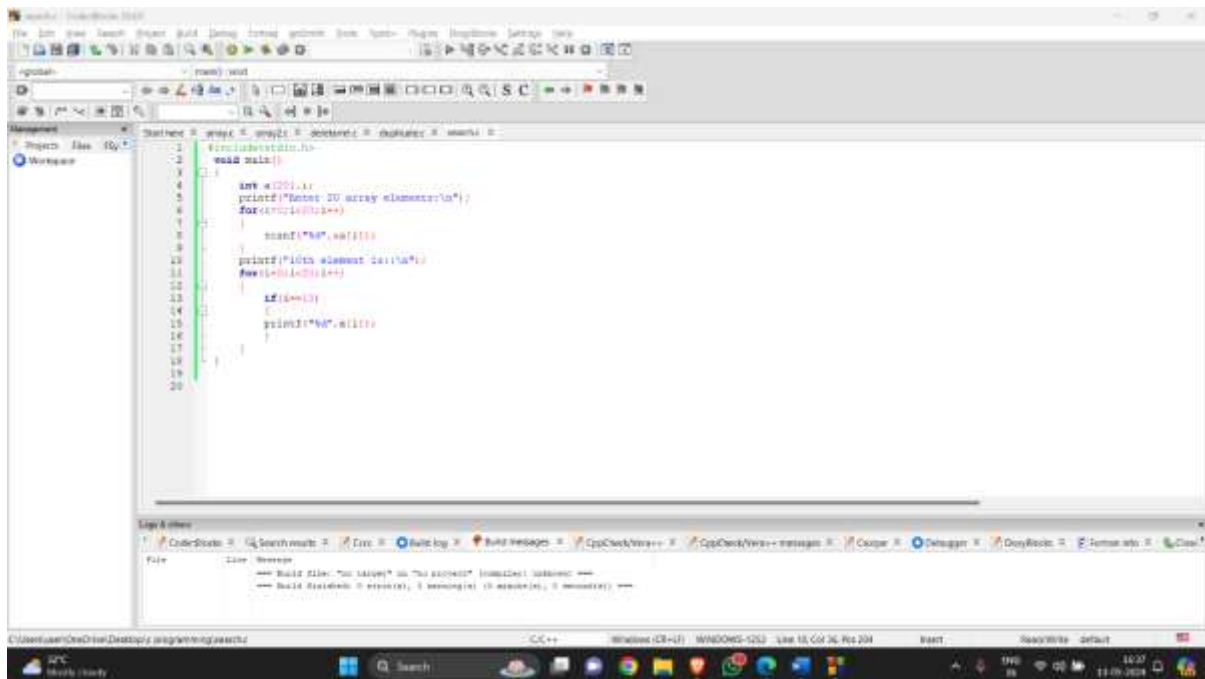
Output:



```
Enter 20 array elements:
1 1 2 2 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Duplicate elements in the array:
1 2
Process returned 28 (0x14)   execution time : 21.334 s
Press any key to continue.
```

12. Search 10 th element in array

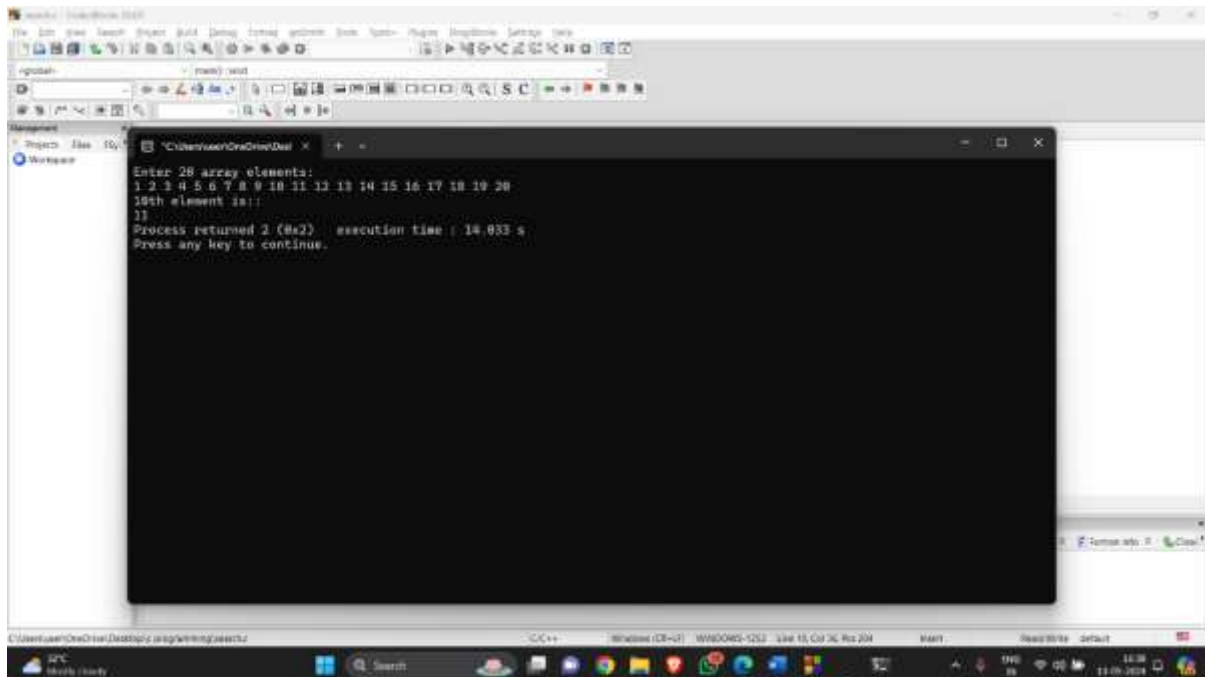
Source code



```
1 //g++ g1.cpp -std=c++11 -O2 -lm -c  
2 #include <iostream>  
3 using namespace std;  
4  
5 int a[20];  
6 printf("Enter 20 array elements:\n");  
7 for(int i=0; i<20; i++)  
8 {  
9     scanf("%d", &a[i]);  
10 }  
11 printf("10th element is: %d\n", a[10]);  
12  
13 if(a[10] == 10)  
14 {  
15     printf("Found\n");  
16 }  
17  
18  
19  
20
```

The screenshot shows the Visual Studio Code editor with the above C++ code. The file explorer on the left shows a project named 'g1.cpp'. The output console at the bottom shows the compilation command: `g++ g1.cpp -std=c++11 -O2 -lm -c`.

Output:



```
Enter 20 array elements:  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
10th element is: 11  
Process returned 0 (0x0)   execution time : 14.933 s  
Press any key to continue.
```

The screenshot shows the Visual Studio Code editor with the same C++ code. A terminal window is open, displaying the output of the program. The output shows that the 10th element of the array is 11, and the program returned 0 (0x0) with an execution time of 14.933 seconds.

13. Calculator

Source code

```
#include <stdio.h>
#include <conio.h>
#include <stdlib.h>
main()
{
    int choice,a,b,result=0,y,rem;
    start:
    printf("welcome to my calculator\n");
    printf("1. Add numbers\n");
    printf("2. Subtract numbers\n");
    printf("3. Multiply numbers\n");
    printf("4. Devide numbers\n");
    printf("5. Exit\n");
    printf("Enter your choice::");
    scanf("%d", &choice);
    switch(choice)
    {
    case 1:
        {
            add:
            printf("***** ADDITION*****\n");
            printf("Enter the first number::\n");
            scanf("%d", &a);
            printf("Enter the second number::\n");
            scanf("%d",&b);
            result=a+b;
            printf("Result  is :: %d", result);
            printf("\nDo you want to continue?(0/1)?\n");
            scanf("%d",&y);
```

```

if(y==1){

    system("cls");

    goto add;

}

else

{

    system("cls");

    goto start;

}

break ;

}

case 2:

{

    sub:

    printf("*****SUBTRACTION*****\n");

    printf("Enter the first number::\n");

    scanf("%d", &a);

    printf("Enter the second number::\n");

    scanf("%d",&b);

    result=a-b;

    printf("Result is :: %d", result);

    printf("\nDo you want to continue?(0/1)?\n");

    scanf("%d",&y);

    if(y==1){

        system("cls");

        goto sub;

```

```

    }

    else

    {

        system("cls");

        goto start;

    }

    break ;

}

case 3:

{

    mul:

    printf("*****MULTIPLICATION*****\n");

    printf("Enter the first number:.\n");

    scanf("%d", &a);

    printf("Enter the second number:.\n");

    scanf("%d",&b);

    result=a*b;

    printf("Result is :: %d", result);

    printf("\nDo you want to continue?(0/1)?\n");

    scanf("%d",&y);

    if(y==1){

        system("cls");

        goto mul;

    }

    else

    {

```



```

        system("cls");

        goto start;

    }

    break ;

}

case 4:

{

    div:

    printf("*****DIVISION*****\n");

    printf("***Divisor must not be zero**\n");

    printf("Enter the first number:.\n");

    scanf("%d", &a);

    printf("Enter the second number:.\n");

    scanf("%d",&b);

    result=a/b;

    printf("Quotient is :: %d", result);

    rem=a%b;

    printf("\nRemainder is :: %d", rem);

    printf("\nDo you want to continue?(0/1)?\n");

    scanf("%d",&y);

    if(y==1){

        system("cls");

        goto div;

    }

    else

    {

```

```

        system("cls");

        goto start;

    }

    break ;

}

case 5:

    {

        printf("BYE....");

        break;

    }

default:

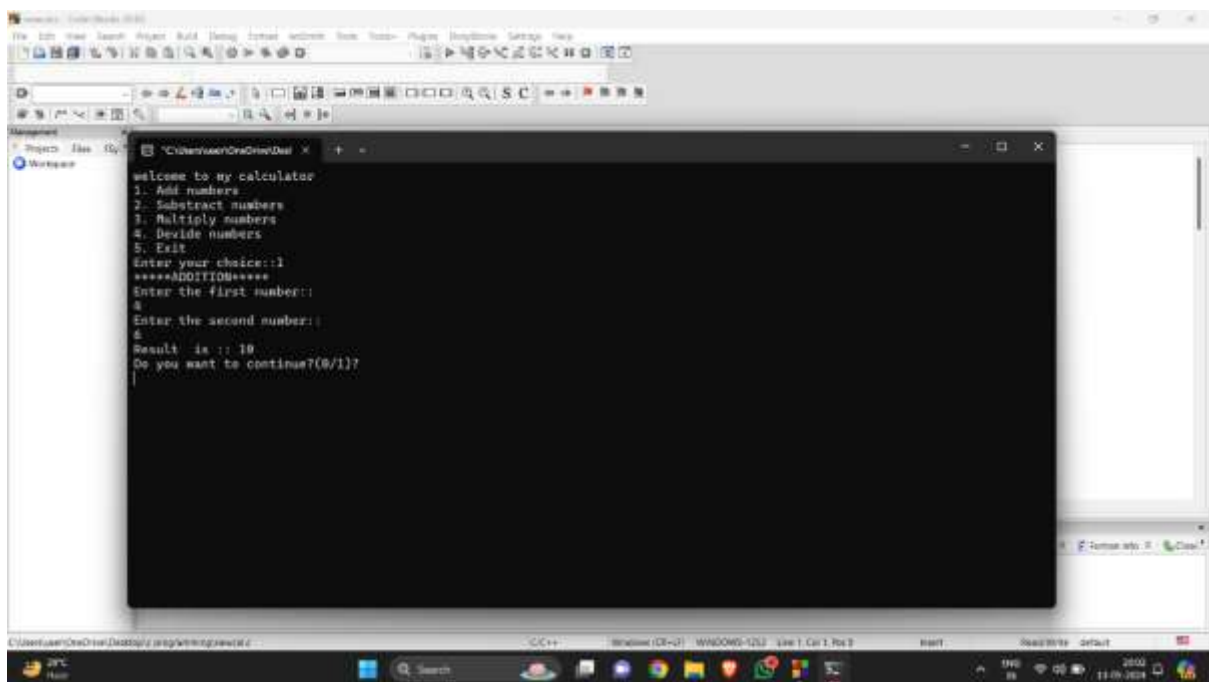
    printf("BYE..");

}

}

```

Output:



```

welcome to my calculator
1. Add numbers
2. Subtract numbers
3. Multiply numbers
4. Divide numbers
5. Exit
Enter your choice::1
*****ADDITION*****
Enter the first number::
4
Enter the second number::
8
Result is :: 10
Do you want to continue?(0/1)?
0

```

