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Section: **B**

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Program No 1:

```cpp
#include <iostream>

 #include <conio.h>

  using namespace std;

   int main()
{


int i,*ptr; ptr=&i;

for(*ptr=0; *ptr<=1000; *ptr=*ptr+5)


{


cout<<*ptr<<" ";


}


return 0;


}
```
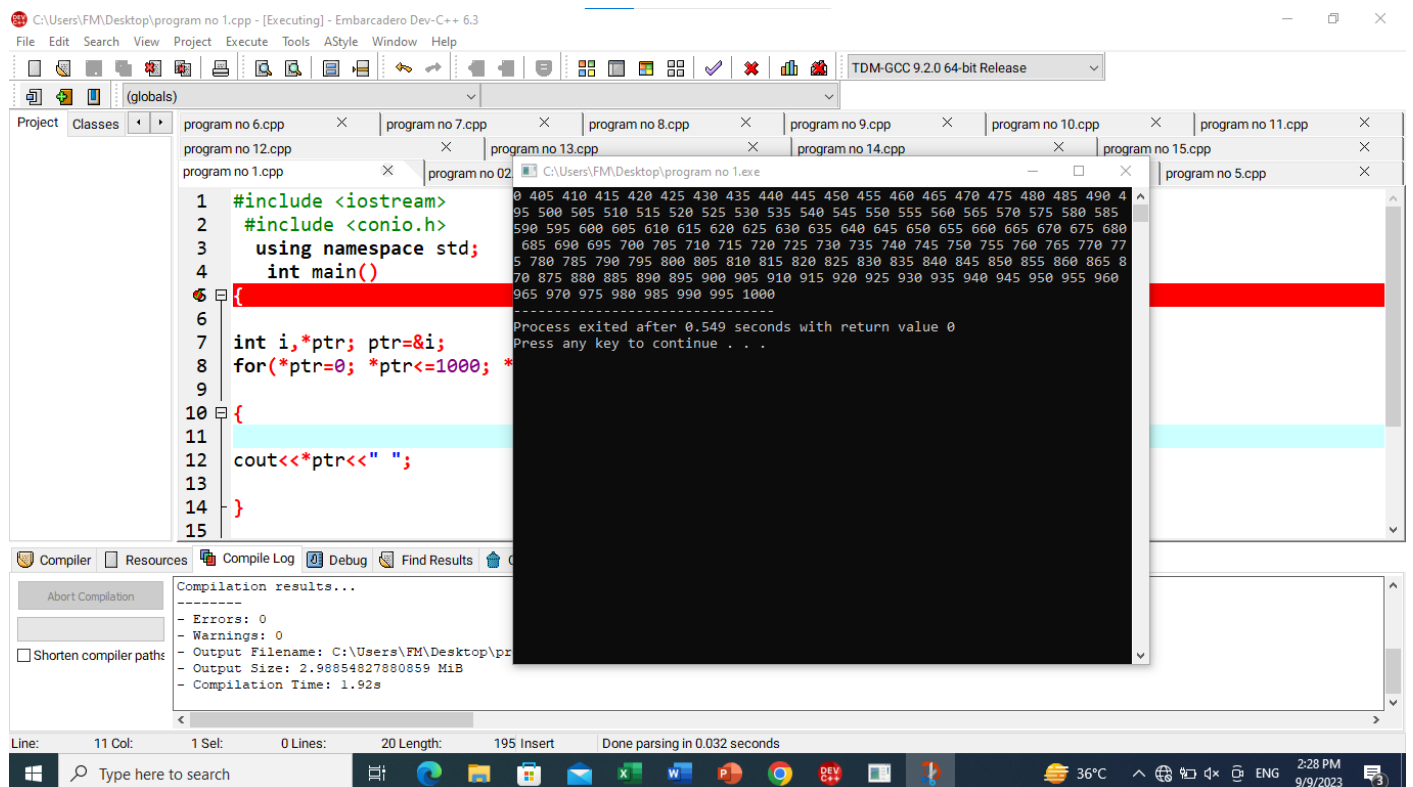
Program No 2:

```cpp
#include <iostream>
using namespace std;
int main() {
    int var = 5;
    int* pointVar;



    pointVar = &var;



    cout << "var = " << var << endl;



    cout << "*pointVar = " << *pointVar << endl
        << endl;

    cout << "Changing value of var to 7:" << endl;
    var = 7;

    cout << "var = " << var << endl;

    cout << "*pointVar = " << *pointVar << endl
        << endl;

    cout << "Changing value of *pointVar to 16:" << endl;



    *pointVar = 16;



    cout << "var = " << var << endl;



    cout << "*pointVar = " << *pointVar << endl;
    return 0;
```
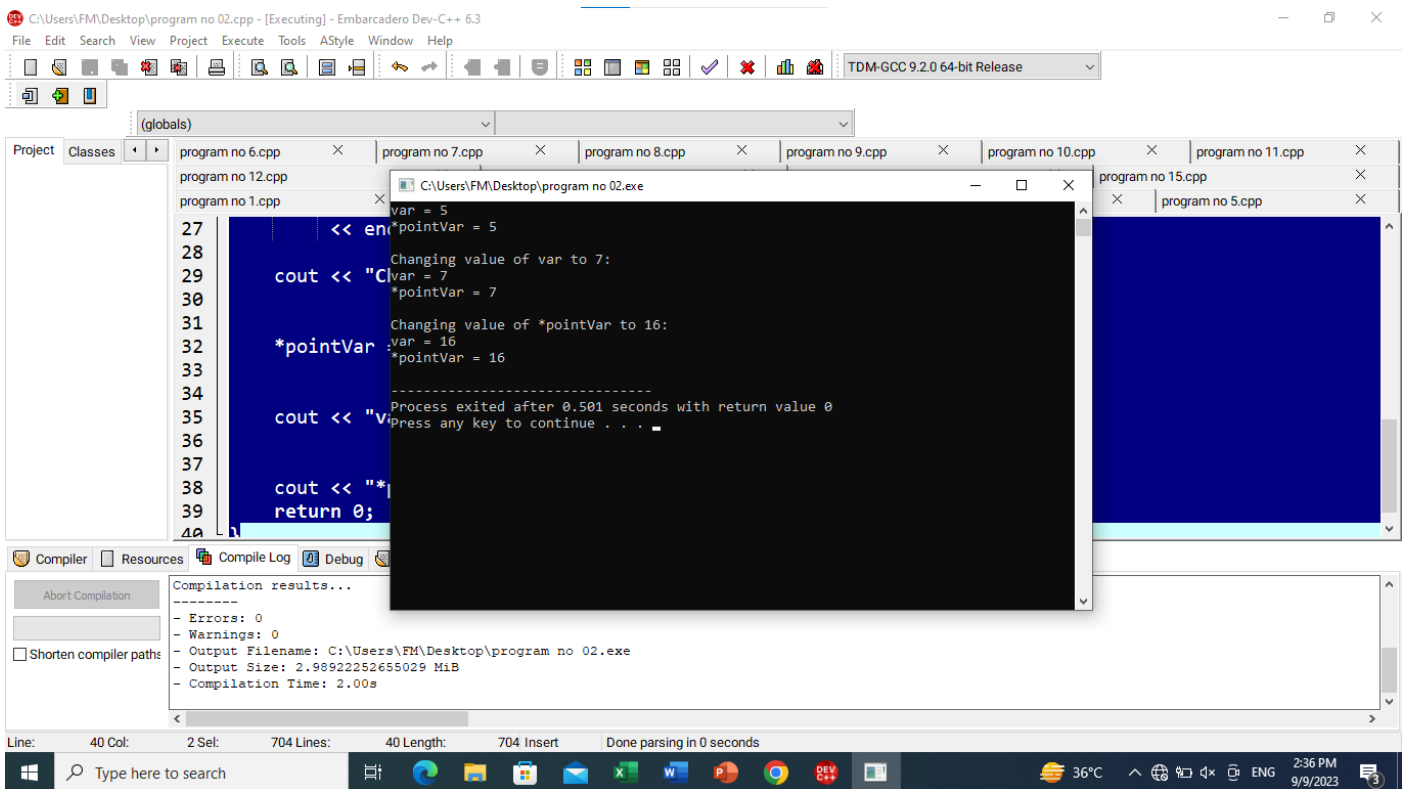
}

Program No 3:

```cpp
#include <iostream>

using namespace std;

void test(int*, int*);

int main() {

        int a = 5, b = 5;

        cout << "Before changing:" << endl;

        cout << "a = " << a << endl;

        cout << "b = " << b << endl;


        test(&a, &b);


        cout << "\nAfter changing" << endl;

        cout << "a = " << a << endl;

        cout << "b = " << b << endl;

        return 0;

}
```
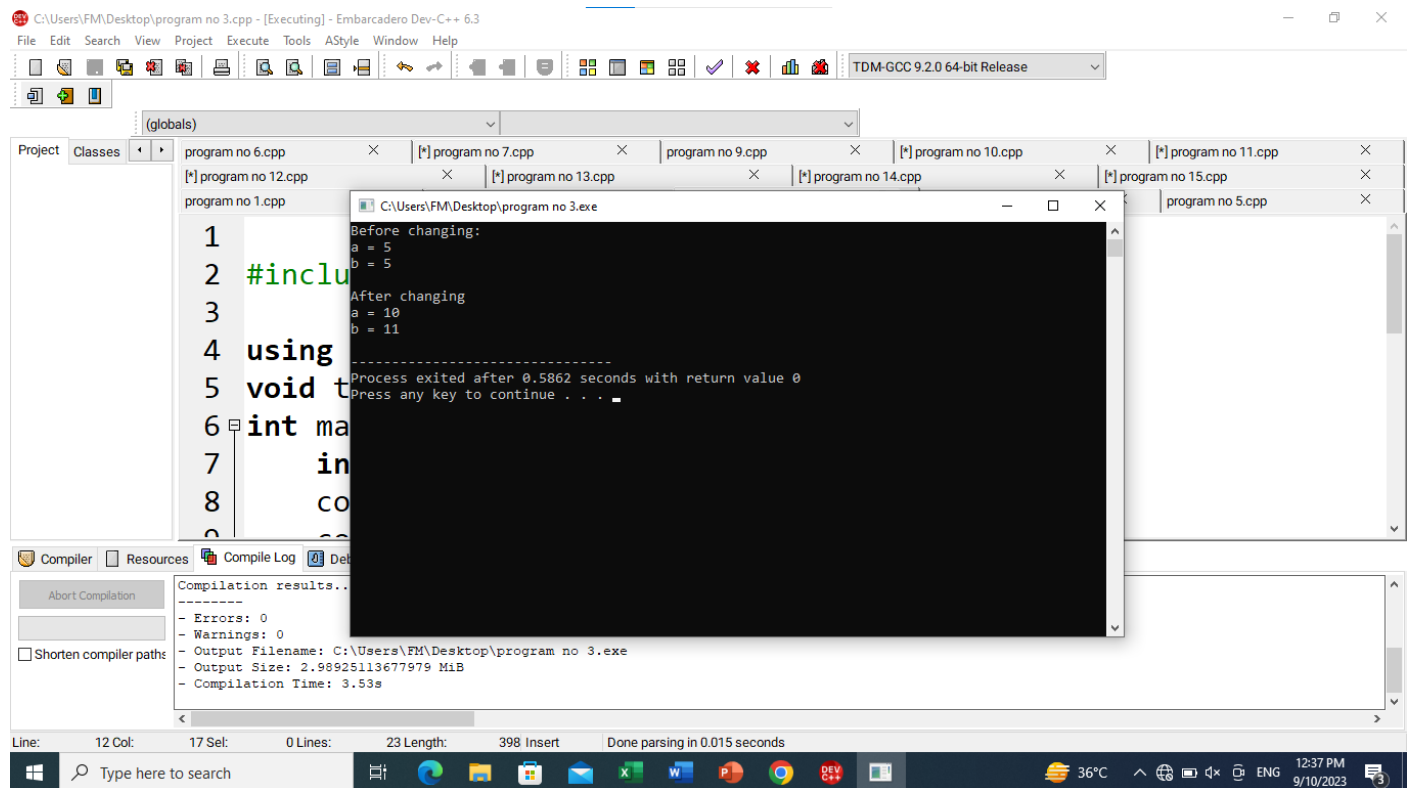
```cpp
void test(int* n1, int* n2) {

    *n1 = 10;

    *n2 = 11;

}
```


Program No 4:

```cpp
#include <iostream>

 using namespace std;

 int main()

{


float num1, num2; float *ptr1, *ptr2; float div;

cout << "Enter first number: "; cin >> num1;

cout << "\nEnter second number: "; cin >> num2;

ptr1 = &num1;


ptr2 = &num2; if(*ptr1>*ptr2){

div = *ptr1 / *ptr2;


cout << "\nDivide is: " << div;
```
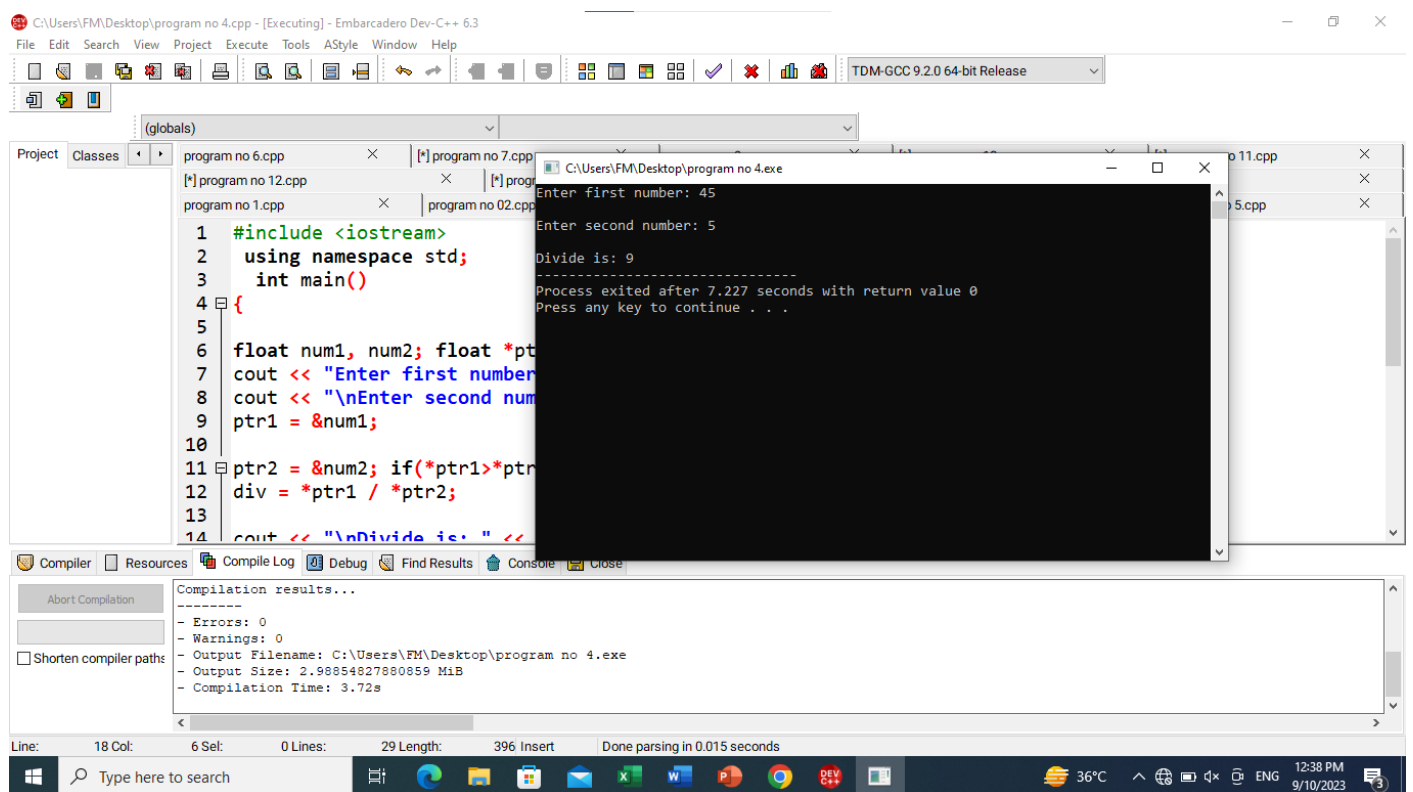
}

else{

cout<<"Cant divide by small number";

}

return 0;

}

Program No 5:

```cpp
#include <iostream>
 using namespace std;
 int main()
{

int num1, num2; int *ptr1, *ptr2; int mul;

cout << "Enter first number: "; cin >> num1;
```

cout << "\n Enter second number: "; cin >> num2;

ptr1 = &num1; ptr2 = &num2;

mul = *ptr1 * *ptr2;
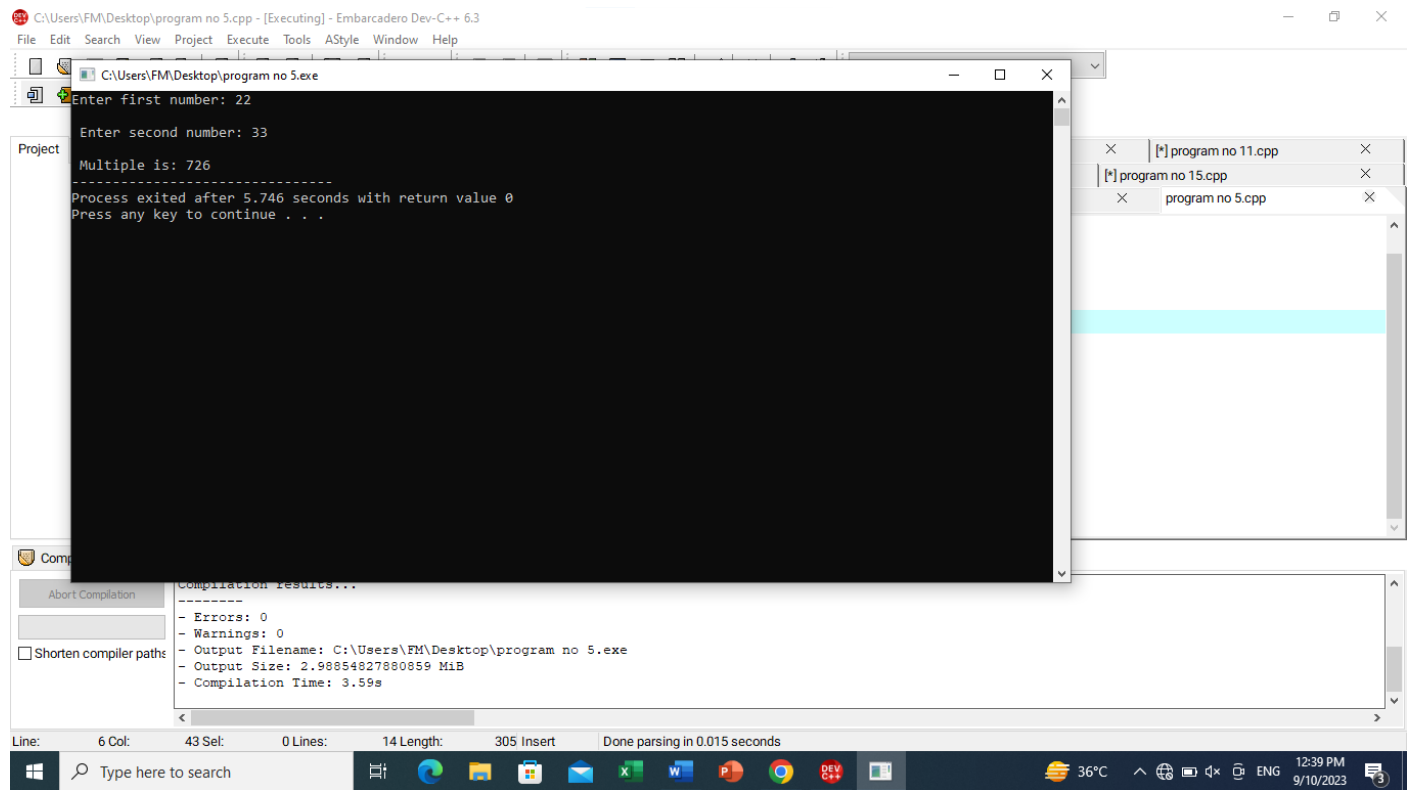

cout << "\n Multiple is: " << mul; return 0;

}

Program No 6:

#include <iostream>

 #include<conio.h>

  using namespace std;

   int main() {

float a;

float *pt;

a = 564.01;

pt = &a; (*pt)++;

cout << "Increment Value of A = " << a;

++(*pt);

cout << "Increment Value of A = " << a; (*pt)--;

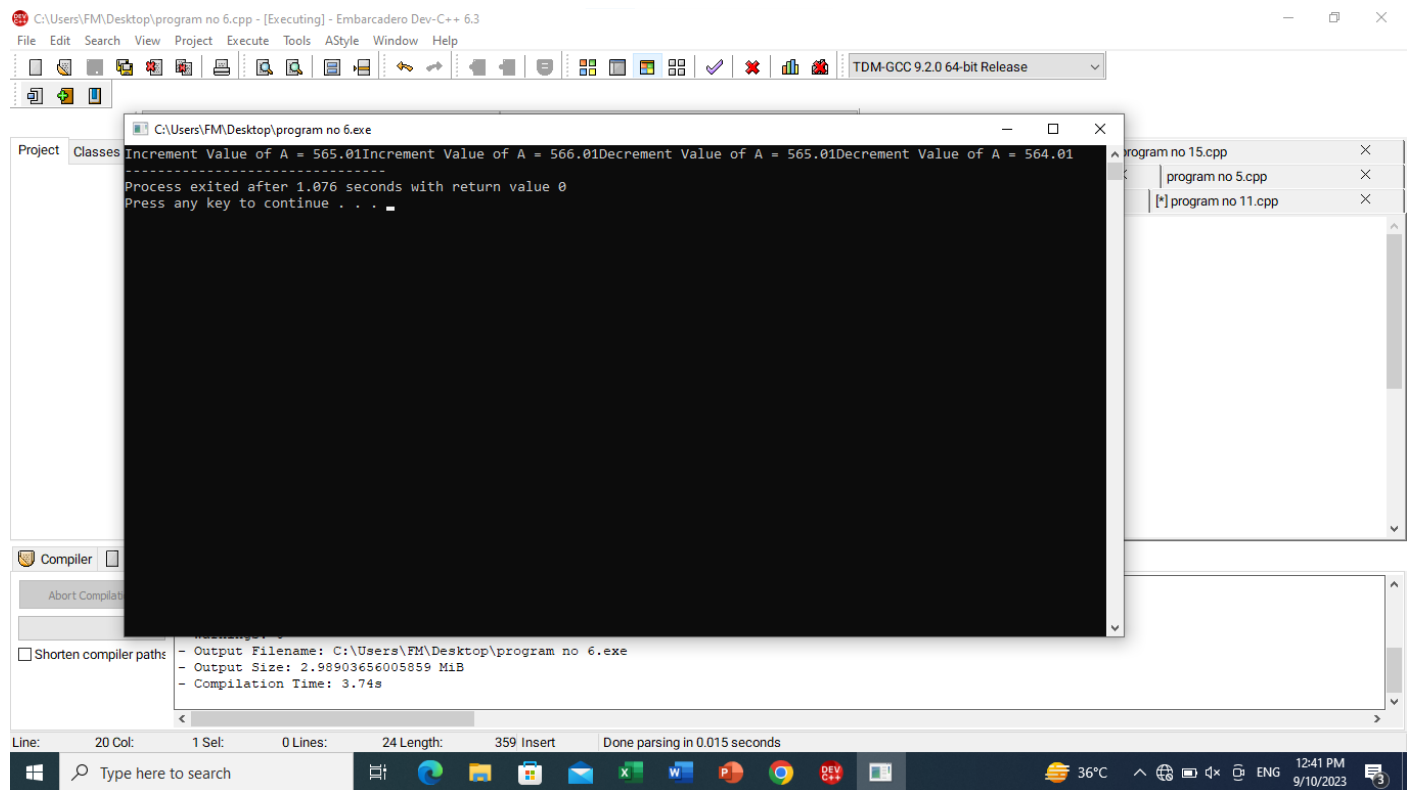cout << "Decrement Value of A = " << a;

--(*pt);

cout << "Decrement Value of A = " << a; return 0;

}

Program No 7:

```cpp
#include <iostream>
#include<conio.h>

using namespace std;

int main() {
    int *p1, *p2;
    int num1, num2, sum;

    cout << "Pointer Example C++ Program : Add Two Numbers \n";
```

```cpp
cout << "\nEnter Two Numbers for Sum : \n";

cin>>num1;

cin>>num2;


p1 = &num1;

p2 = &num2;


sum = *p1 + *p2;


cout << "Sum of Two Numbers : " << sum;


getch();

return 0;

}
```
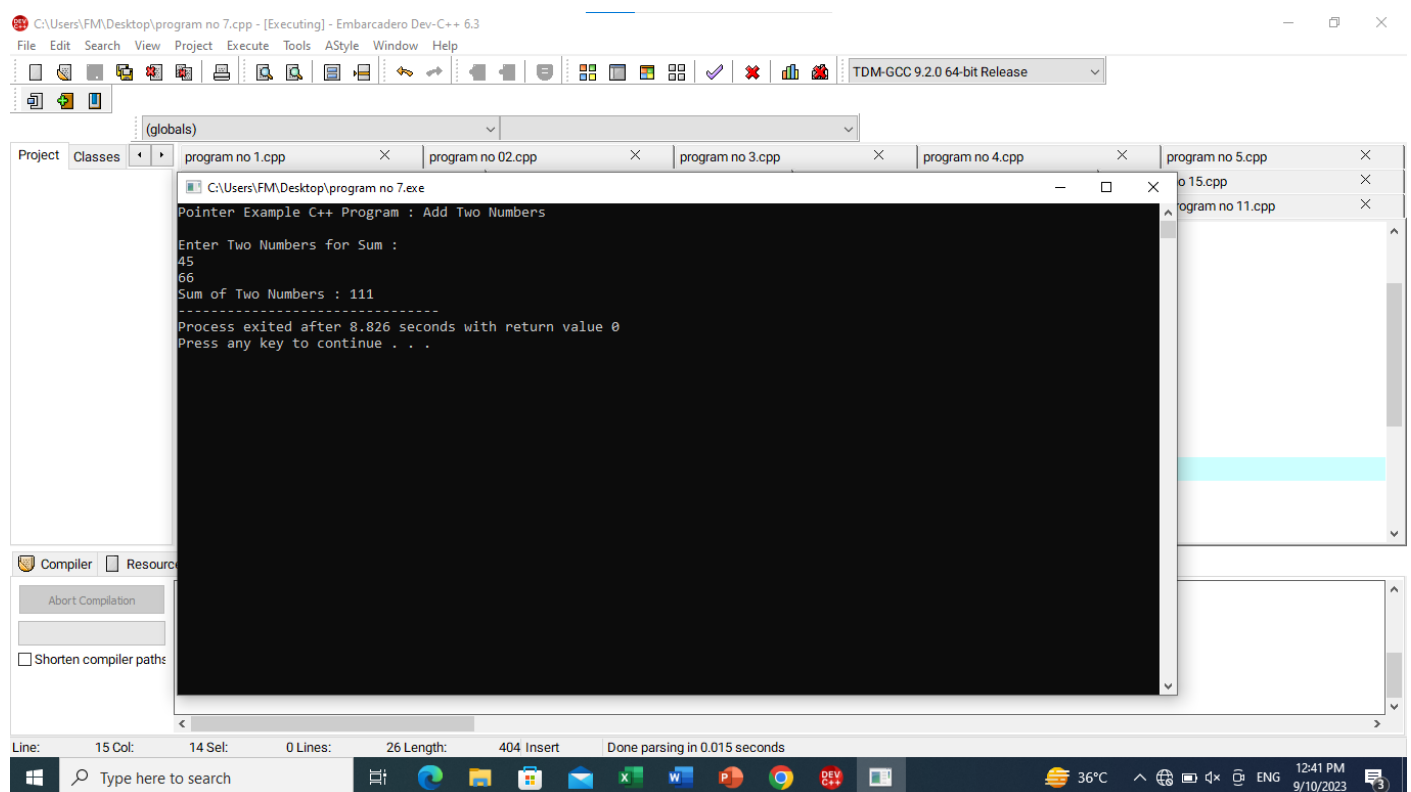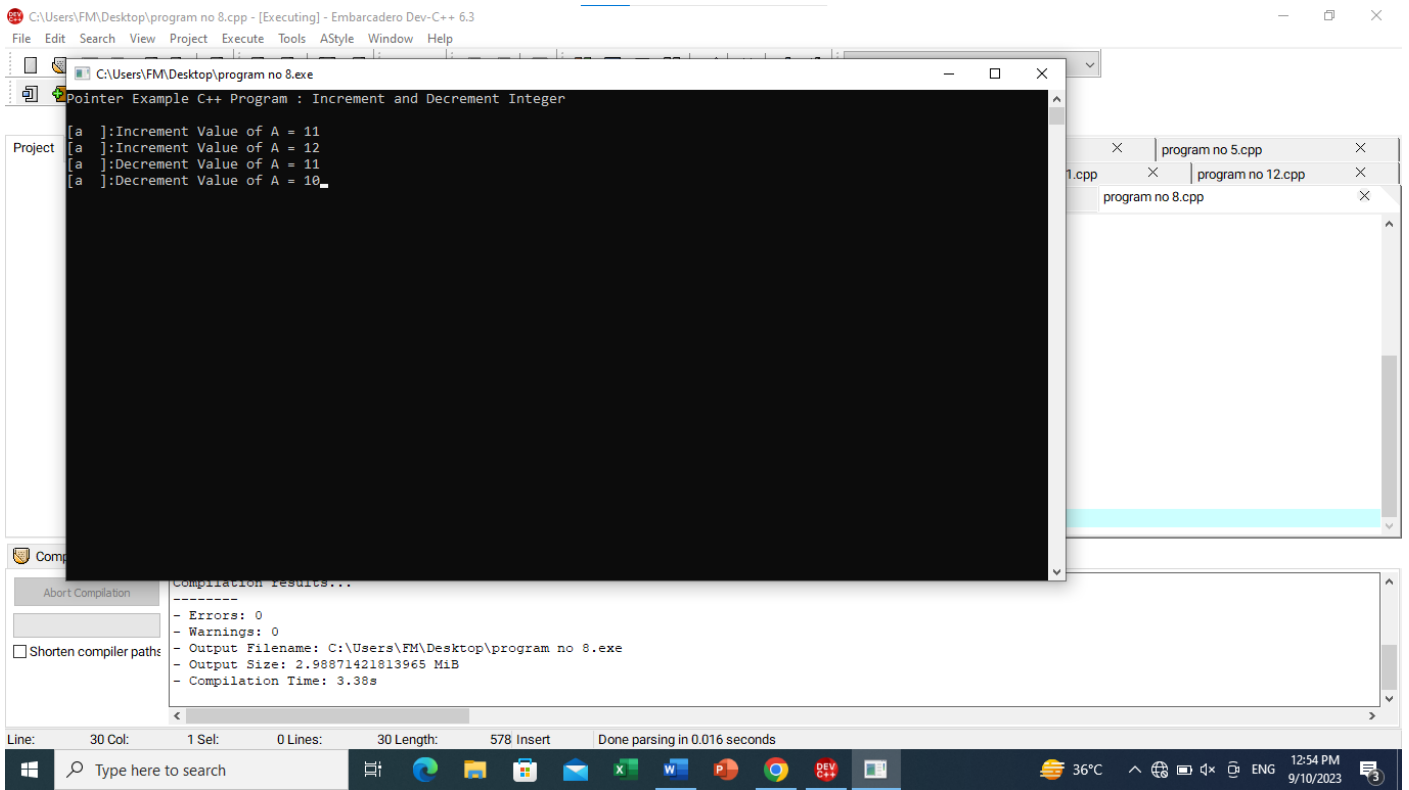

Program No 8:

```cpp
#include <iostream>

#include<conio.h>


using namespace std;
```

```cpp
int main() {
  int a;
  int *pt;

  cout << "Pointer Example C++ Program : Increment and Decrement Integer\n";
  a = 10;
  pt = &a;

  (*pt)++; //Post Increment
  cout << "\n[a  ]:Increment Value of A = " << a;

  ++(*pt); //Pre Increment
  cout << "\n[a  ]:Increment Value of A = " << a;


  (*pt)--; //Post Decrement
  cout << "\n[a  ]:Decrement Value of A = " << a;

  --(*pt); //Pre Decrement
  cout << "\n[a  ]:Decrement Value of A = " << a;

  getch();
  return 0;
}
```

Program No 9:

```cpp
#include <iostream>

#include<conio.h>


using namespace std;


int main() {

    char str[20], *pt;

    int i = 0, c = 0;


    cout << "Pointer Example C++ Program : Count vowels String \n";

    cout << "Enter Any string (small letters) [below 20 chars] : ";

    cin>>str;


    pt = str;

    while (*pt != '\0') {

        if (*pt == 'a' || *pt == 'e' || *pt == 'i' || *pt == 'o' || *pt == 'u')

            c++;

        i++;

        pt++;
```
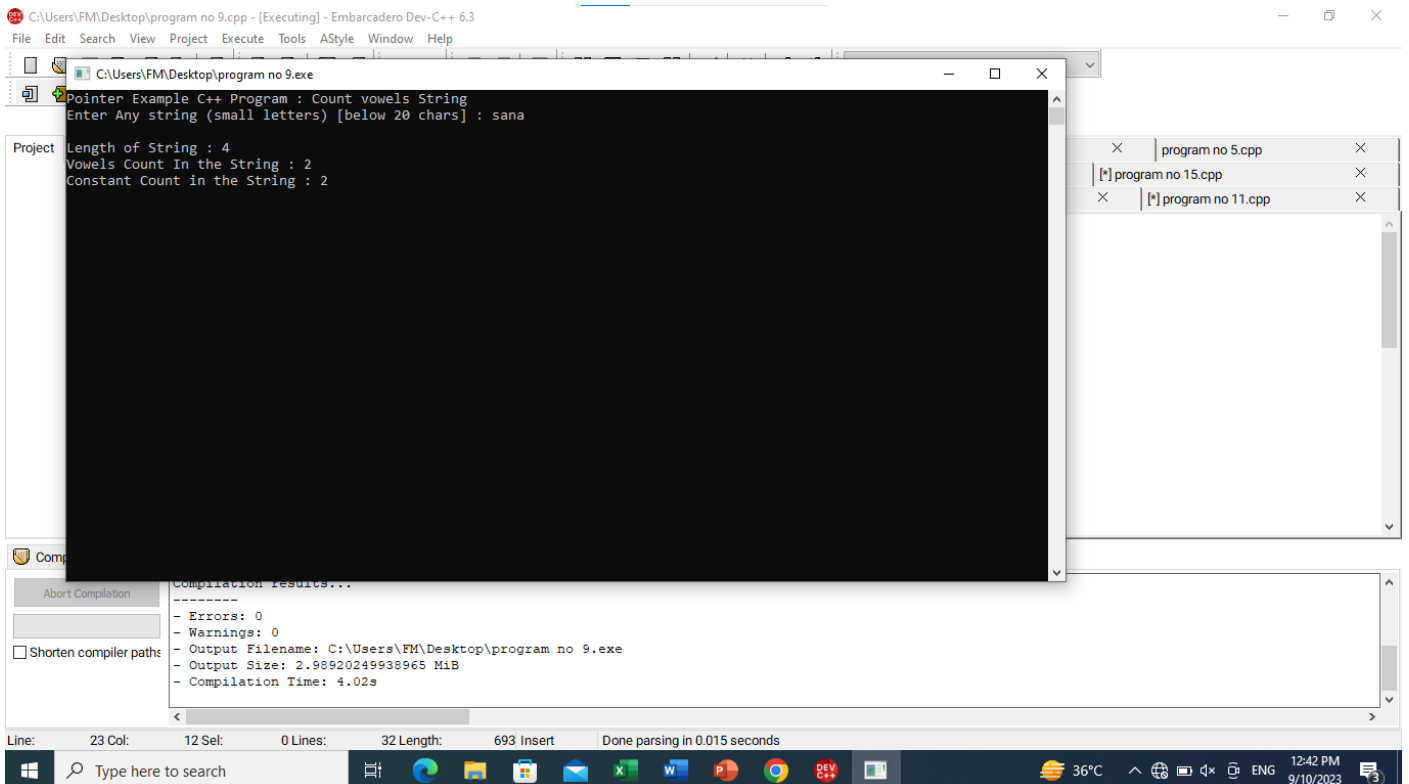
```
    }

    cout << "\nLength of String : " << i;

    cout << "\nVowels Count In the String : " << c;

    cout << "\nConstant Count in the String : " << (i - c);


    getch();

    return 0;

}
```


Program No 10:

```cpp
#include <iostream>

#include<conio.h>


using namespace std;


int main() {

    char str[20], *pt;

    int i = 0;
```

cout << "Pointer Example C++ Program : Calculate Length of String \n";

cout << "Enter Any string [below 20 chars] : ";

cin>>str;

pt = str;

while (*pt != '\0') {

   i++;

   pt++;

}

cout << "\nLength of String : " << i;

getch();

return 0;

}
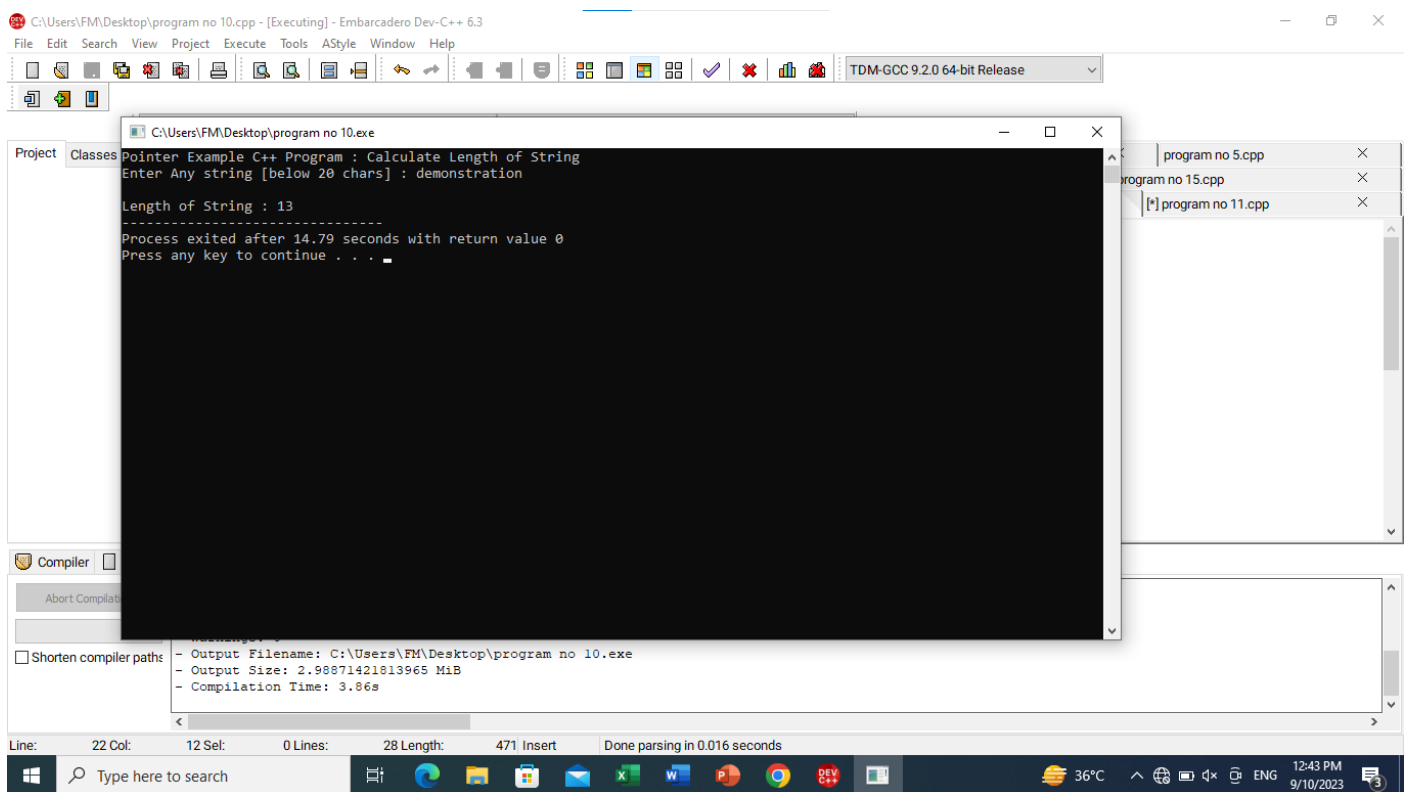
Program No 11:

#include <iostream>

#include<conio.h>

using namespace std;

```cpp
void area_of_circle(float *value, float *result) {

  *result = 3.14 * (*value) * (*value);

}


int main() {

  float radius, area;


  cout << "Pointer Example C++ Program : Area Of Circle Using Pointer and Functions\n";


  cout << "\nEnter the radius of Circle : ";

  cin>>radius;


  area_of_circle(&radius, &area);


  cout << "\nArea of Circle : " << area;


  getch();

  return 0;

}
```


Program No 12:

```cpp
#include <iostream>
#include<conio.h>

using namespace std;

void add_numbers(int *value1, int *value2, int *result) {
  *result = *value1 + *value2;
}

int main() {
  int number1, number2, result = 0;

  cout << "Pointer Example C++ Program : Passing pointers to functions In C++ \n";

  cout << "Enter value of Number # 1: ";
  cin>>number1;
  cout << "Enter value of Number # 2: ";
  cin>>number2;
  cout << "Before Pass to Reference :  Number # 1=" << number1 << ",  Number # 2=" << number2 << ", Result # :" << result << " \n";

  add_numbers(&number1, &number2, &result);

  cout << "After  Pass to Reference :  Number # 1=" << number1 << ",  Number # 2=" << number2 << ", Result # :" << result << "\n";

  getch();
  return 0;
}
```
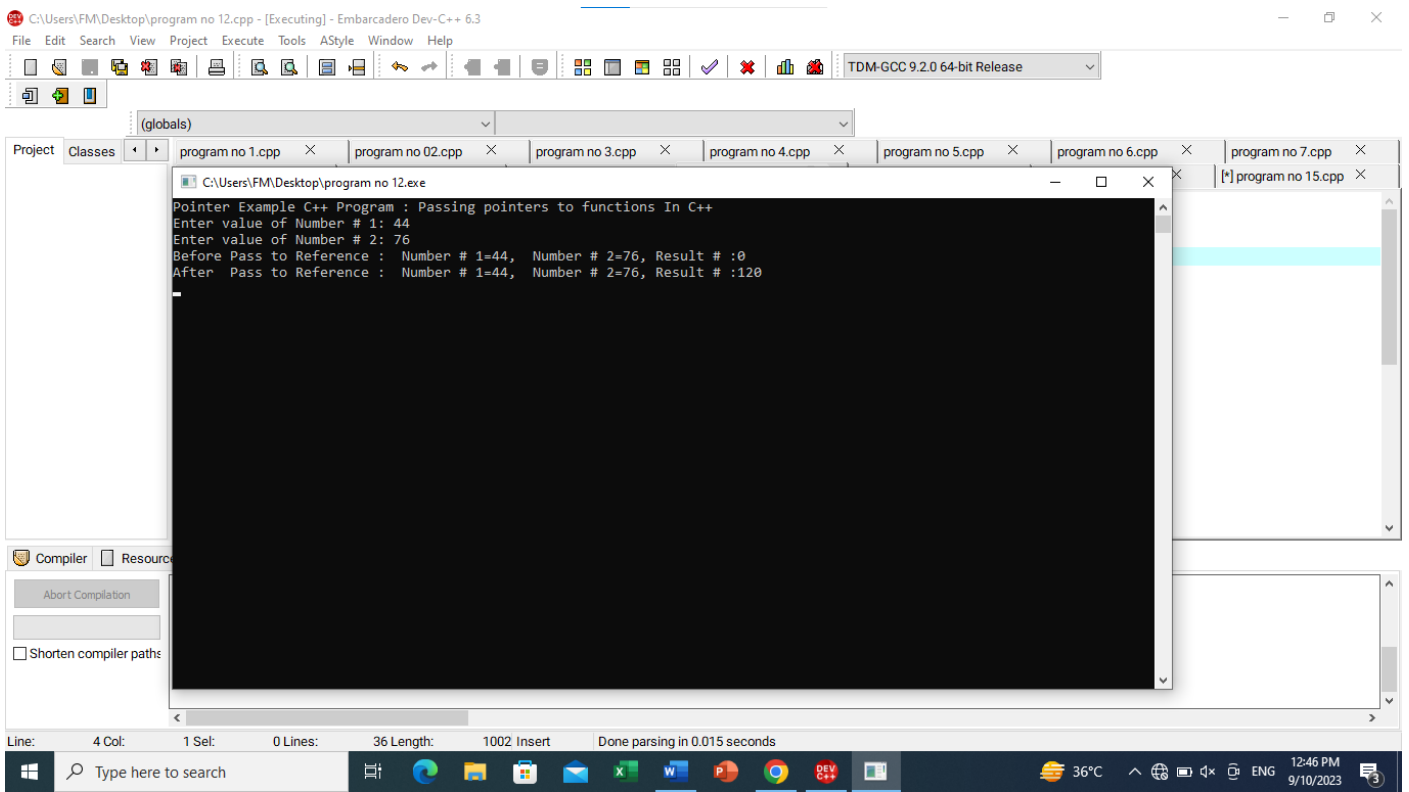
Program No 13:

#include <iostream>

#include<conio.h>

using namespace std;

#define MAX_SIZE 5

int main() {

  int var[5];

  int i = 0, sum = 0;

  int *pt;

cout << "Pointer Example C++ Program : Read, Print and Sum of Integer Pointer and Array \n";

  pt = &var[0];

```cpp
    cout << "Enter " << MAX_SIZE << " Elements : \n";

    while (i < MAX_SIZE) {

        cin>>*pt;

        i++;

        pt++;

    }

    i = 0;

    pt = &var[0];

    cout << "\nPrint Elements:\n";

    while (i < MAX_SIZE) {

        i++;

        cout << *pt << "\t";

        sum = sum + *pt;

        pt++;

    }

    cout << "\nSum of Array : " << sum;

    getch();

    return 0;

}
```

Pointer Example C++ Program : Read, Print and Sum of Integer Pointer and Array
Enter 5 Elements :
4
5
6
77
8

Print Elements:
4   5   6   77   8
Sum of Array : 100

Process exited after 14.47 seconds with return value 0
Press any key to continue . . .

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\FM\Desktop\program no 13.exe
- Output Size: 2.98920249938965 MiB
- Compilation Time: 3.45s
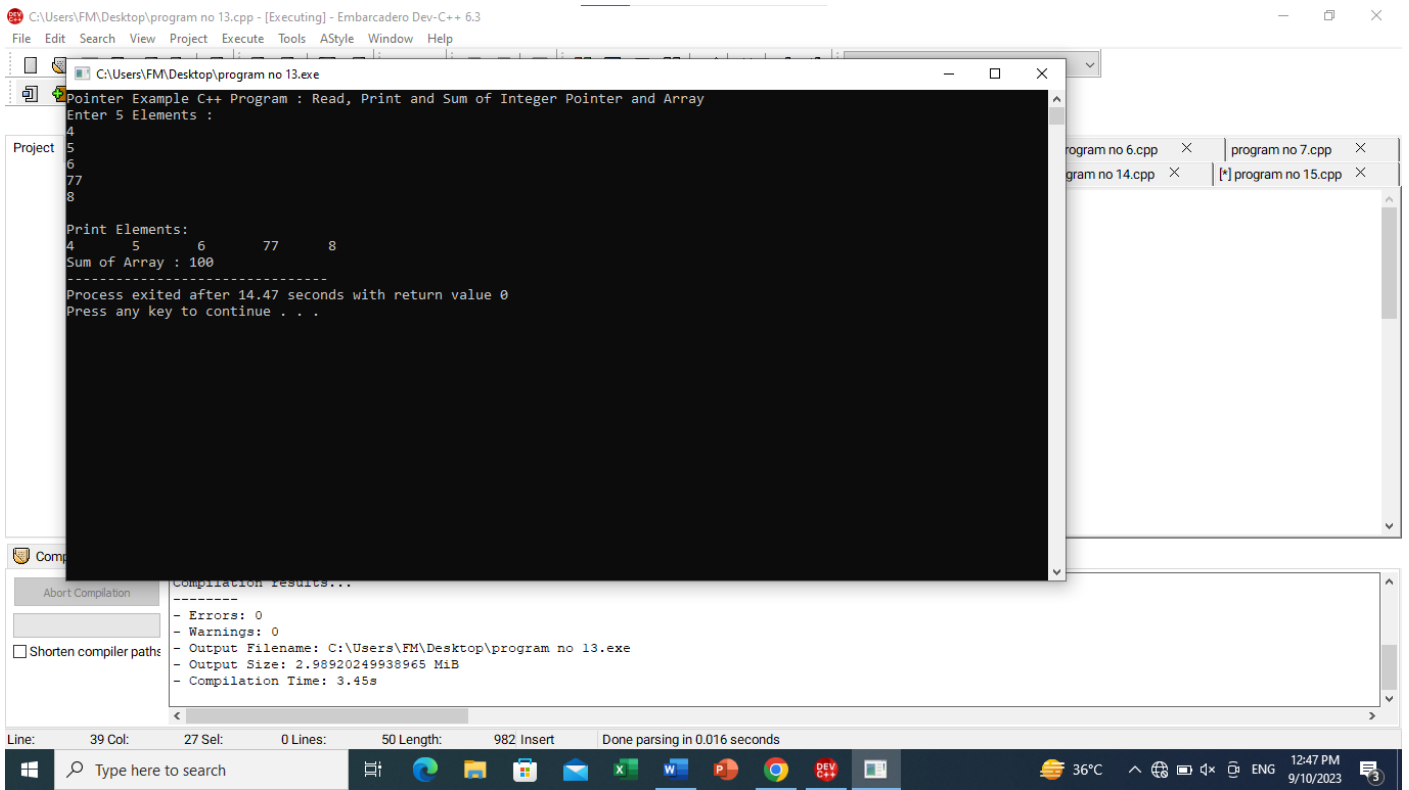
Program No 14:

#include <iostream>

#include<conio.h>

using namespace std;

int main() {

  int *p1, *p2;

  int num1, num2, diff;

  cout << "Pointer Example C++ Program : Find a difference between two Numbers \n";

  cout << "\nEnter Two Numbers for Find a Difference : \n";

  cin>>num1;

  cin>>num2;

  p1 = &num1;

  p2 = &num2;

diff = *p1 - *p2;

cout << "Difference :" << diff;
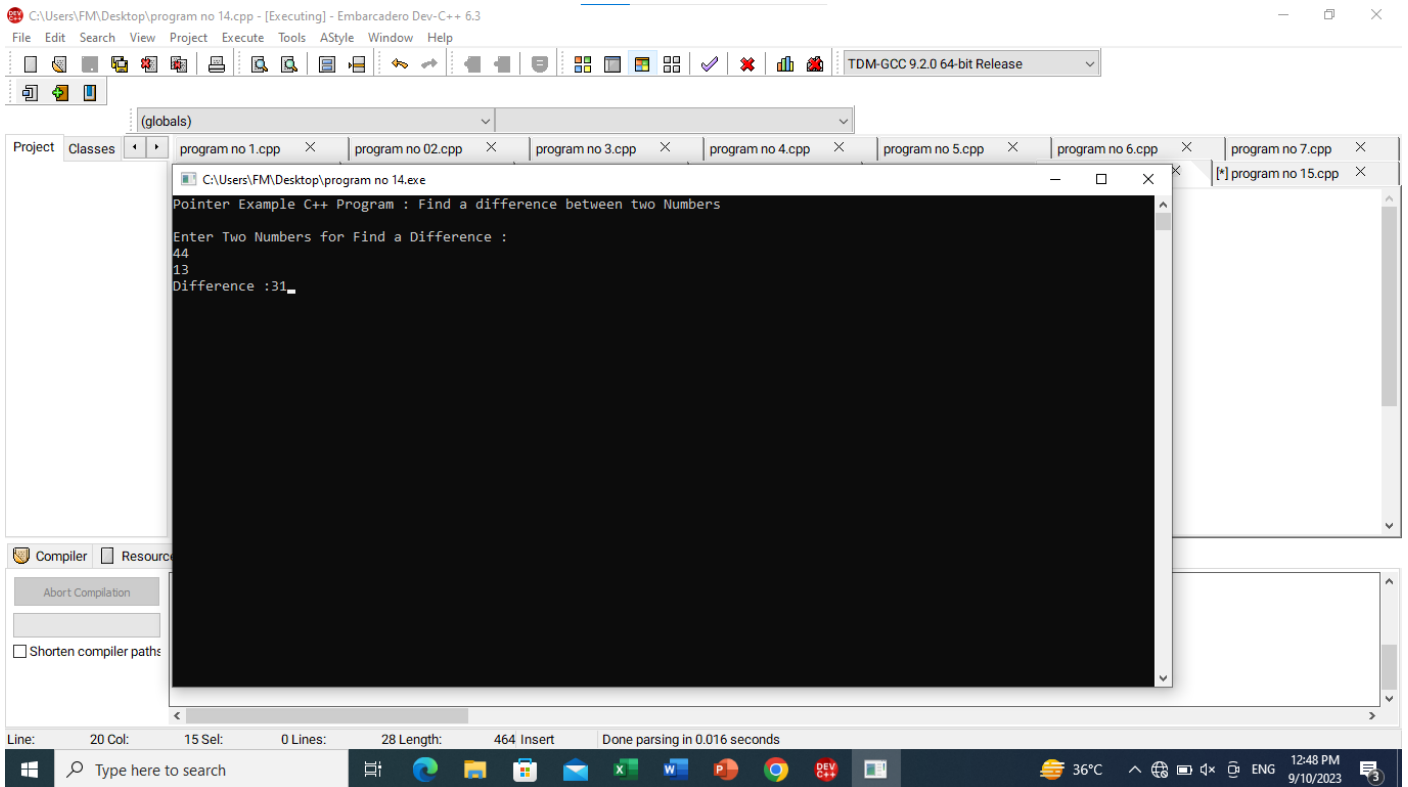
getch();

return 0;

}

Program No 15:

#include <iostream>

#include<conio.h>

using namespace std;

void swap_numbers(int *value1, int *value2) {

  int temp;

 temp = *value1;

 *value1 = *value2;

 *value2 = temp;

}

```cpp
int main() {

    int number1, number2;

    cout << "Simple Example Program for Swap Numbers Using Pointers In C++\n";

    cout << "Enter value of Swap Number # 1: ";
    cin>>number1;
    cout << "Enter value of Swap Number # 2: ";
    cin>>number2;

    cout << "Before Swapping :  Number # 1=" << number1 << ",  Number # 2=" << number2 << "\n";

    swap_numbers(&number1, &number2);

    cout << "After  Swapping :  Number # 1=" << number1 << ",  Number # 2=" << number2 << "\n";

    getch();
    return 0;

}
```