

# Привет!

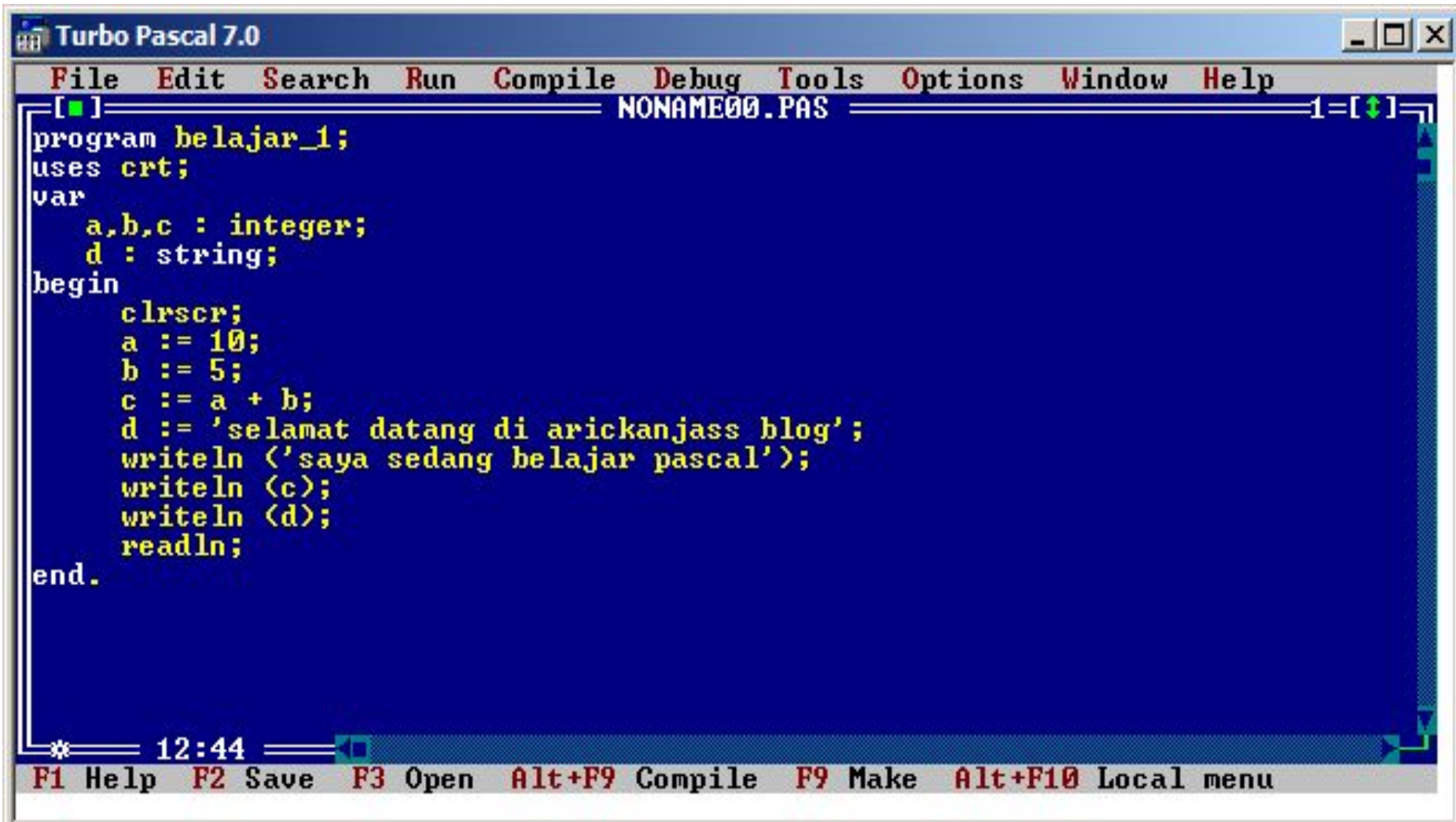
Булат  
Шаехов  
2 курс

# Изучаем C#!

# Что такое Паскаль?



# Просто код

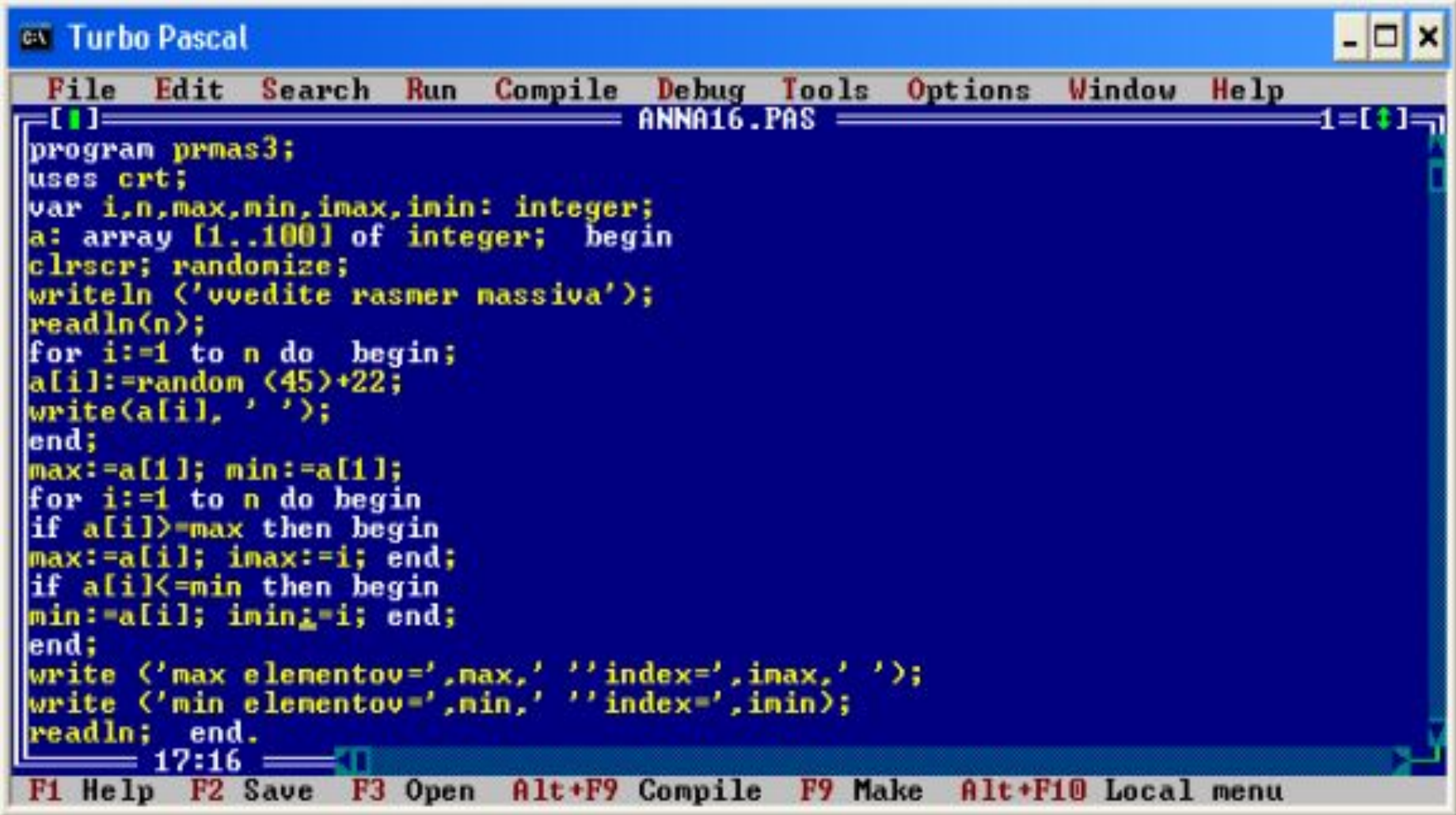


```
program belajar_1;
uses crt;
var
  a,b,c : integer;
  d : string;
begin
  clrscr;
  a := 10;
  b := 5;
  c := a + b;
  d := 'selamat datang di arickanjass blog';
  writeln ('saya sedang belajar pascal');
  writeln (c);
  writeln (d);
  readln;
end.
```

\* 12:44

F1 Help F2 Save F3 Open Alt+F9 Compile F9 Make Alt+F10 Local menu

# ДЛИННЫЙ КОД



```
program prmas3;
uses crt;
var i,n,max,min,imax,imin: integer;
a: array [1..100] of integer; begin
clrscr; randomize;
writeln ('vvedite rasmer massiva');
readln(n);
for i:=1 to n do begin;
a[i]:=random (45)+22;
write(a[i], ' ');
end;
max:=a[1]; min:=a[1];
for i:=1 to n do begin
if a[i]>max then begin
max:=a[i]; imax:=i; end;
if a[i]<min then begin
min:=a[i]; imin:=i; end;
end;
write ('max elementov=',max,' ' 'index=',imax,' ');
write ('min elementov=',min,' ' 'index=',imin);
readln; end.
```

17:16

F1 Help F2 Save F3 Open Alt+F9 Compile F9 Make Alt+F10 Local menu

# Процедура в Паскале

```
1.  var
2.    a, b, c: integer;
3.
4.  procedure sum(x, y: integer; var z: integer);
5.  begin
6.    z := x + y;
7.  end;
8.
9.  begin
10.   write('Введите два числа: ');
11.   readln(a, b);
12.   sum(a, b, c); {процедура вызывается своим именем,
13.               которое вы написали после зарезервированного слова
14.               procedure в описании}
13.   writeln(c);
14.  end.
```

Всё...

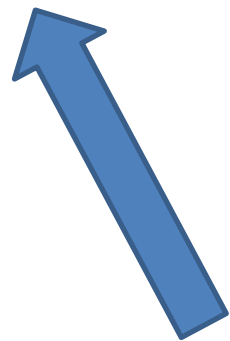
# Платформы





# ООП

## объектно-ориентированное программирование



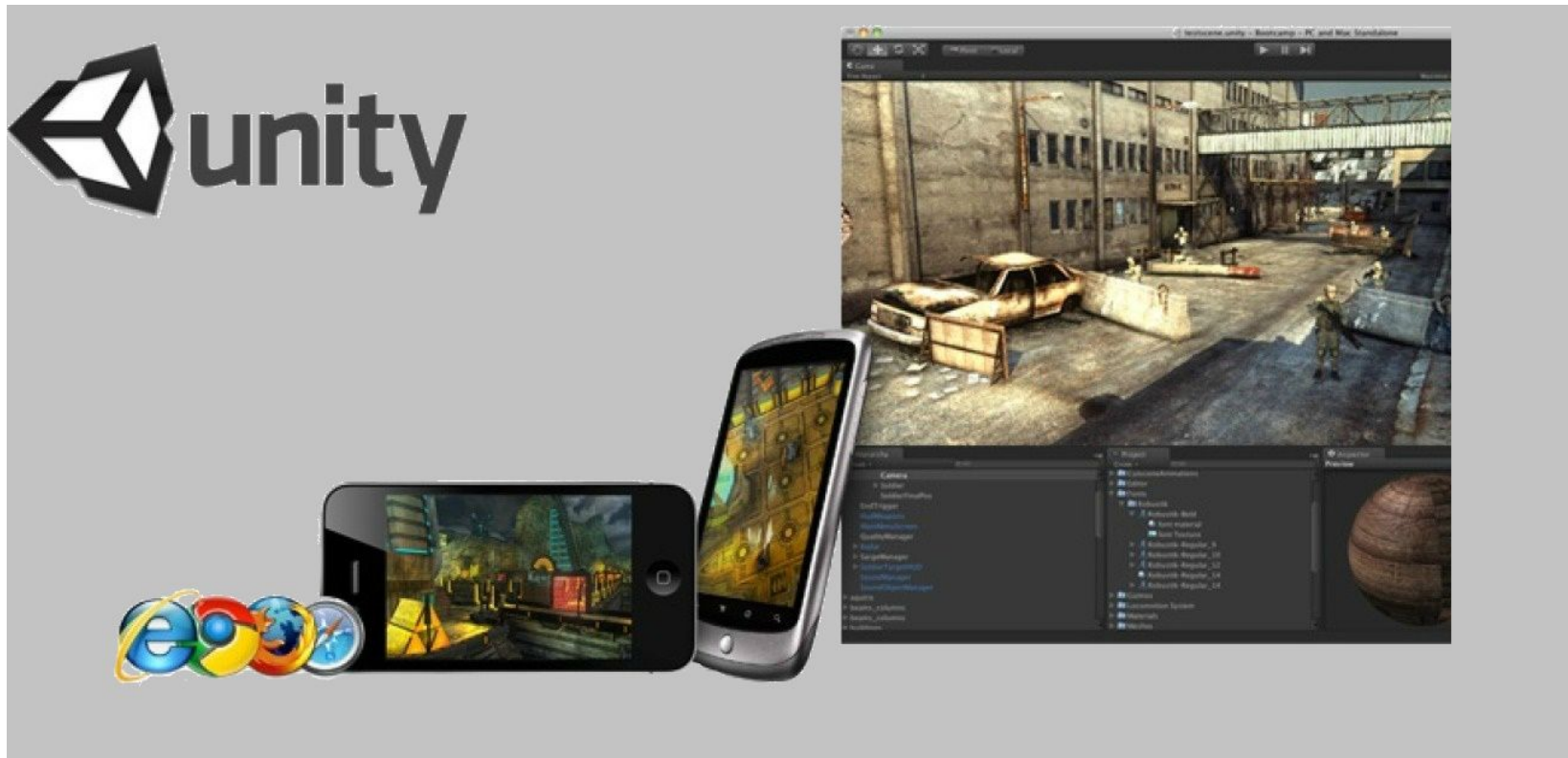
**Объект**



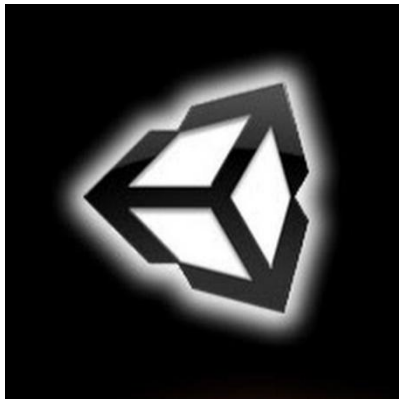
# ООП языки



# Почему C#??



# Направления



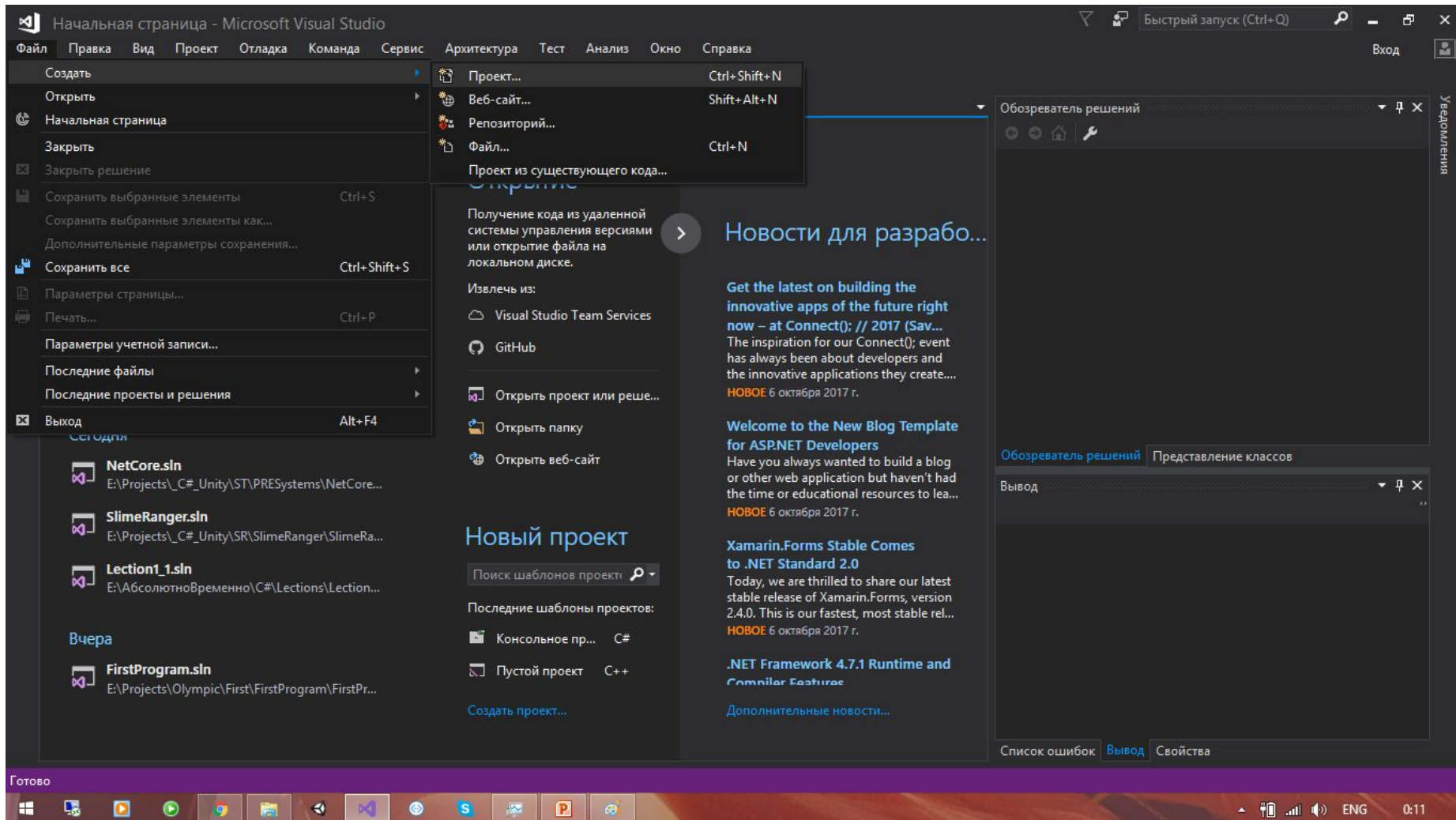
# Только C#

# MSDN

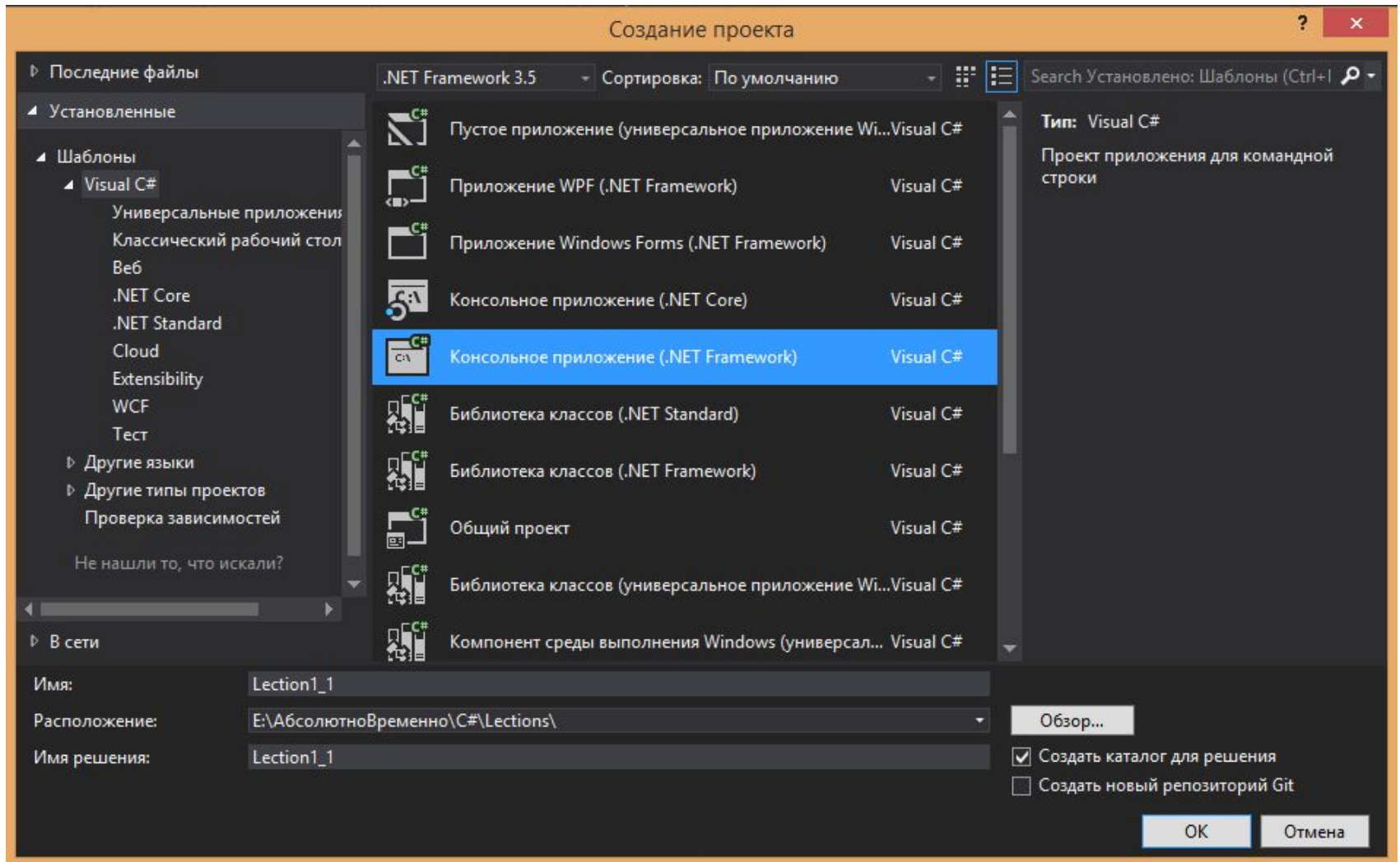


<https://msdn.microsoft.com/ru-ru/library/67ef8sbd%28v=vs.120%29.aspx>

# Начинаем!

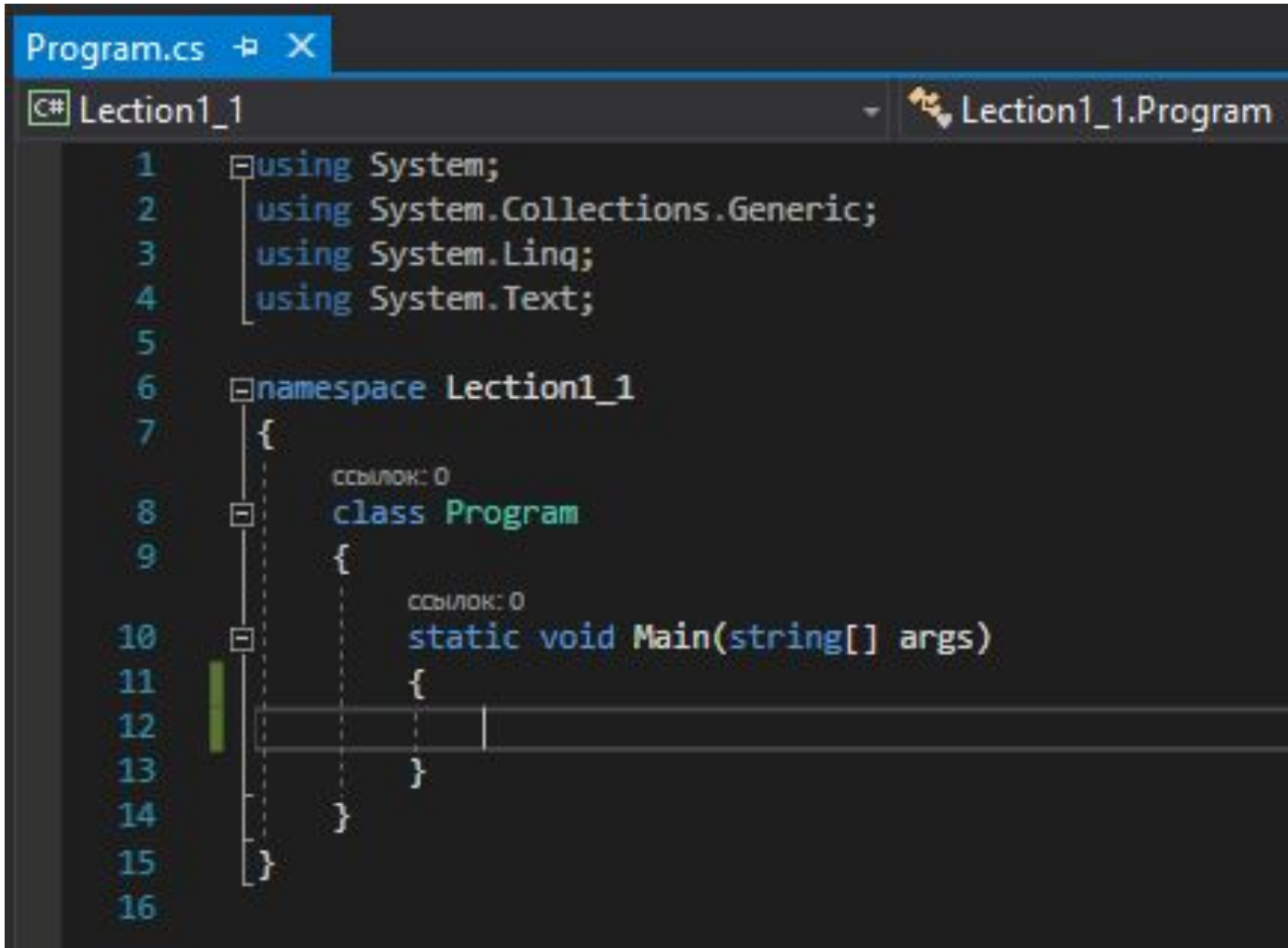


# Начинаем!



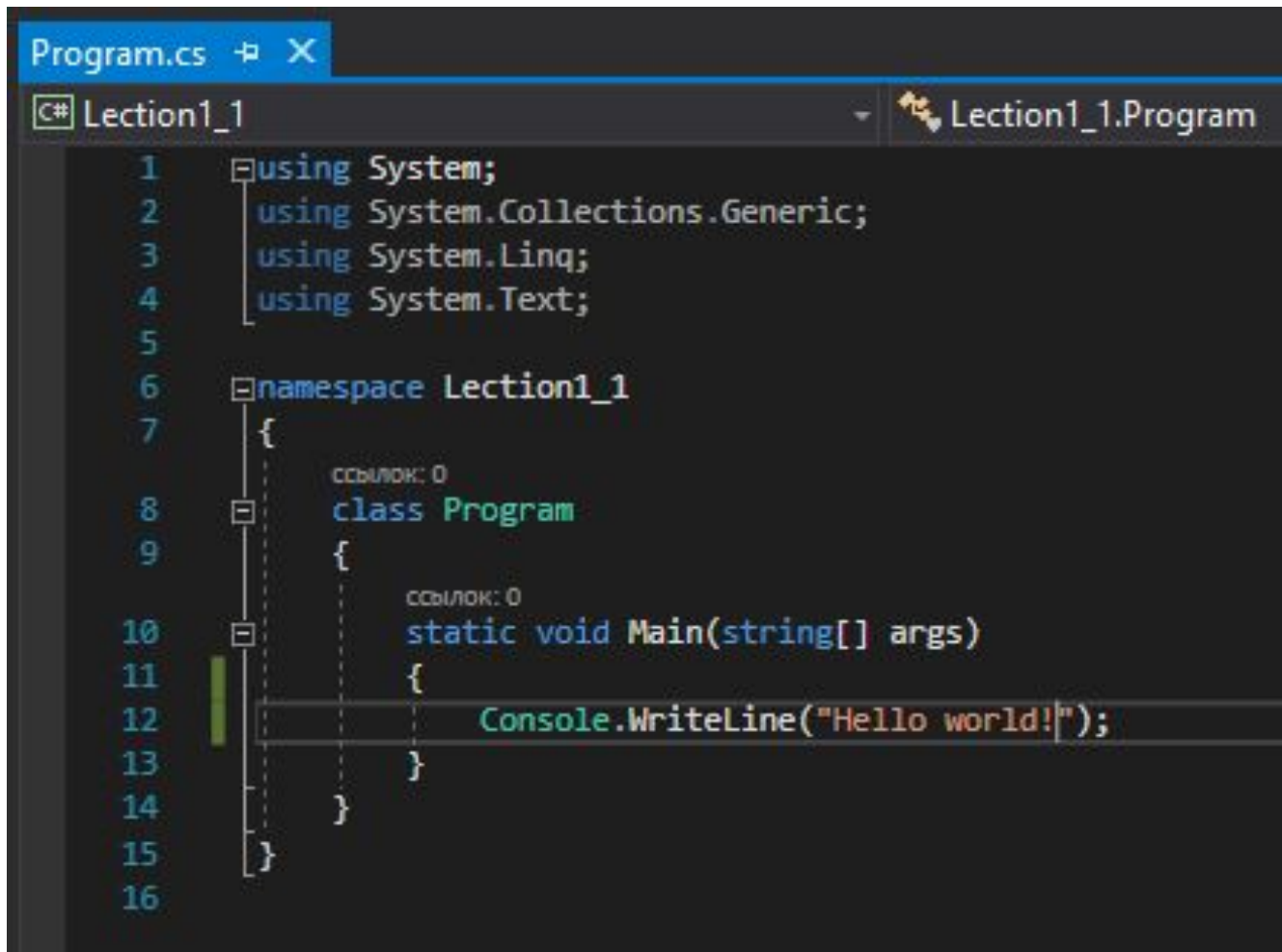


# Разбор созданного кода



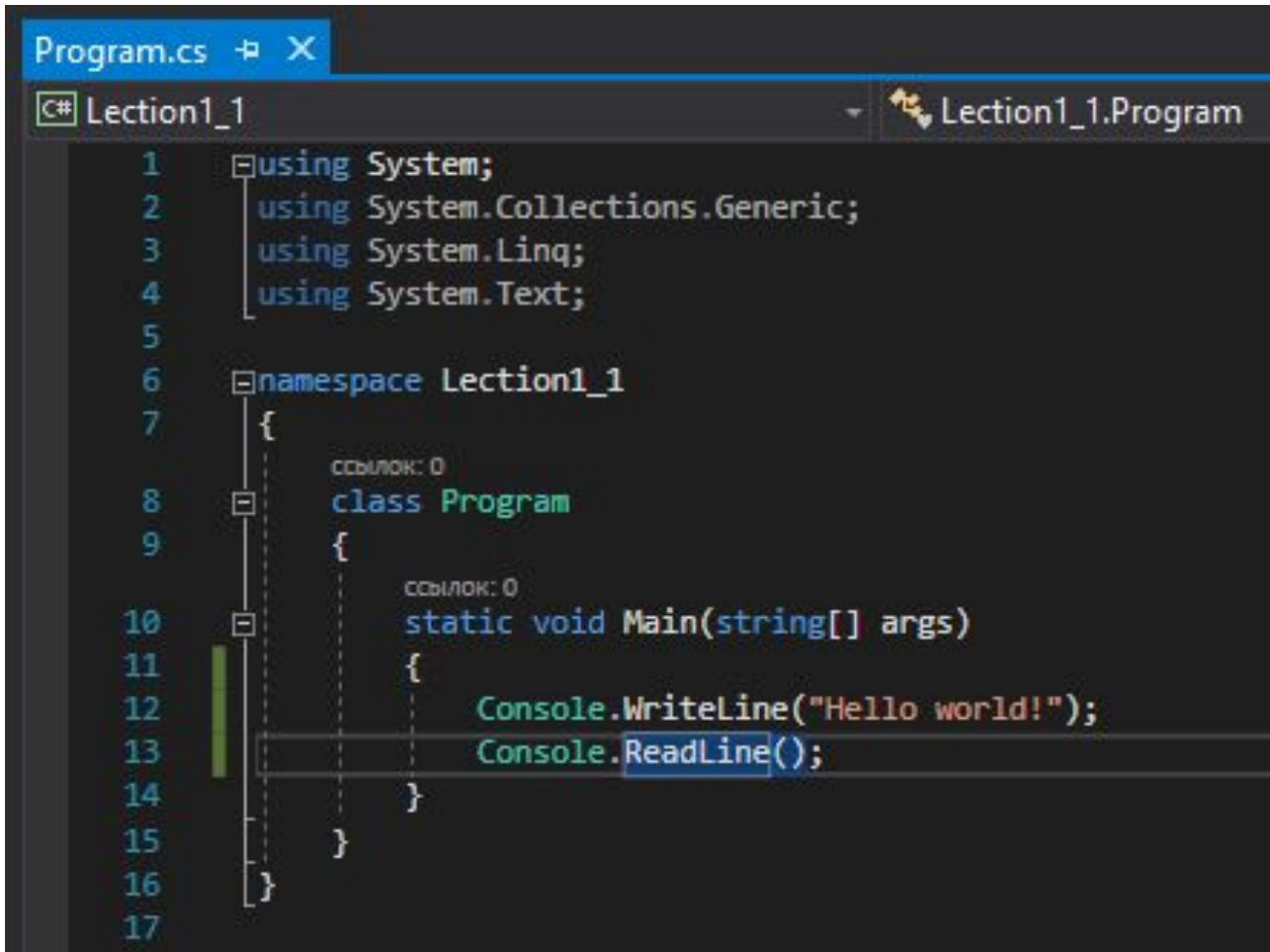
```
Program.cs  X
C# Lektion1_1  Lektion1_1.Program
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5
6  namespace Lektion1_1
7  {
8      class Program
9      {
10         static void Main(string[] args)
11         {
12
13         }
14     }
15 }
16
```

# Классика :)



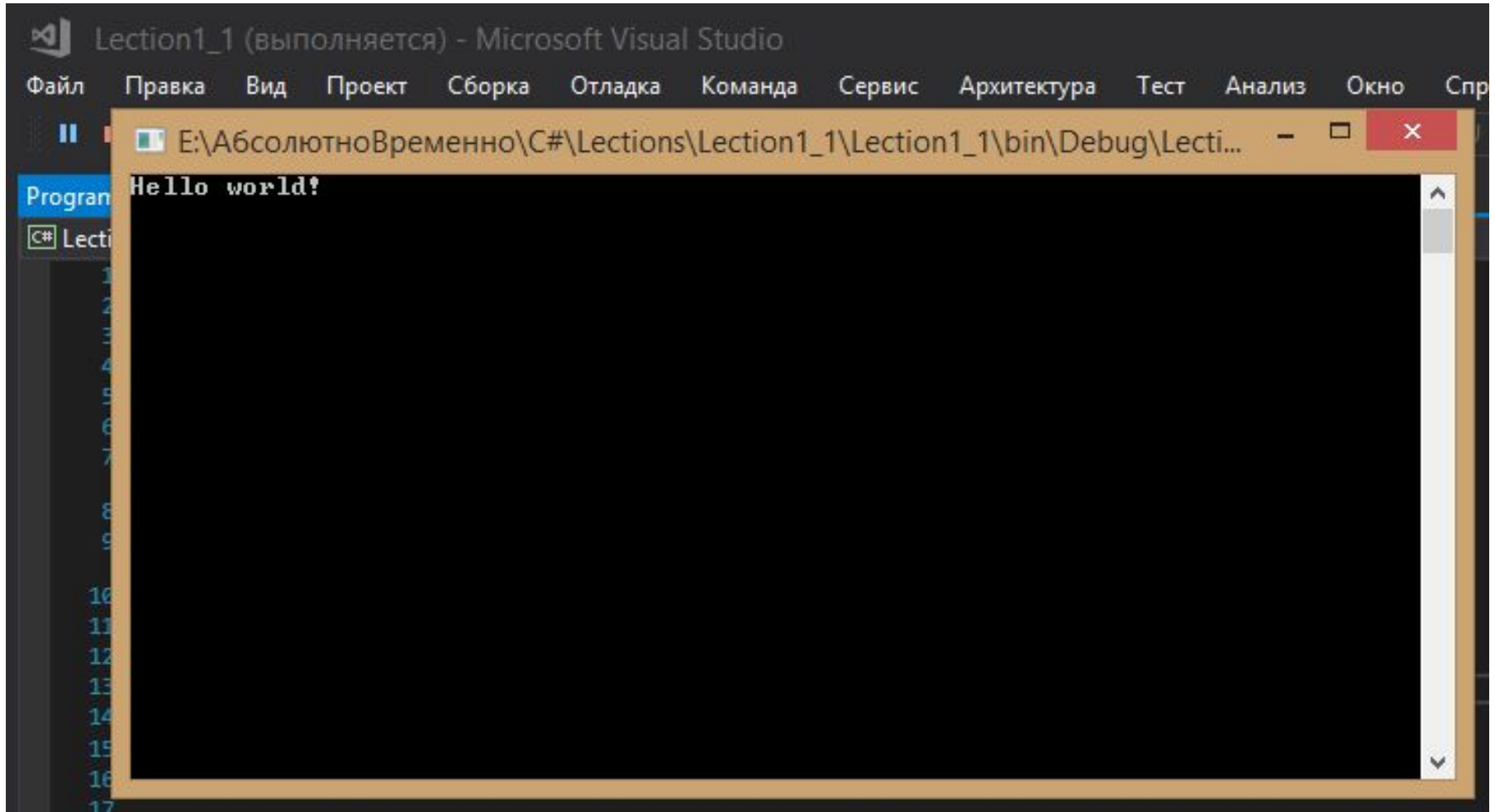
```
Program.cs [X]
C# Lection1_1 Lection1_1.Program
1  using System;
2      using System.Collections.Generic;
3      using System.Linq;
4      using System.Text;
5
6  namespace Lection1_1
7  {
8      class Program
9      {
10         static void Main(string[] args)
11         {
12             Console.WriteLine("Hello world!");
13         }
14     }
15 }
16
```

# Тест 2



```
Program.cs [X]
C# Lektion1_1 Lektion1_1.Program
1 using System;
2   using System.Collections.Generic;
3   using System.Linq;
4   using System.Text;
5
6 namespace Lektion1_1
7 {
8     class Program
9     {
10        static void Main(string[] args)
11        {
12            Console.WriteLine("Hello world!");
13            Console.ReadLine();
14        }
15    }
16 }
17
```

# Результат

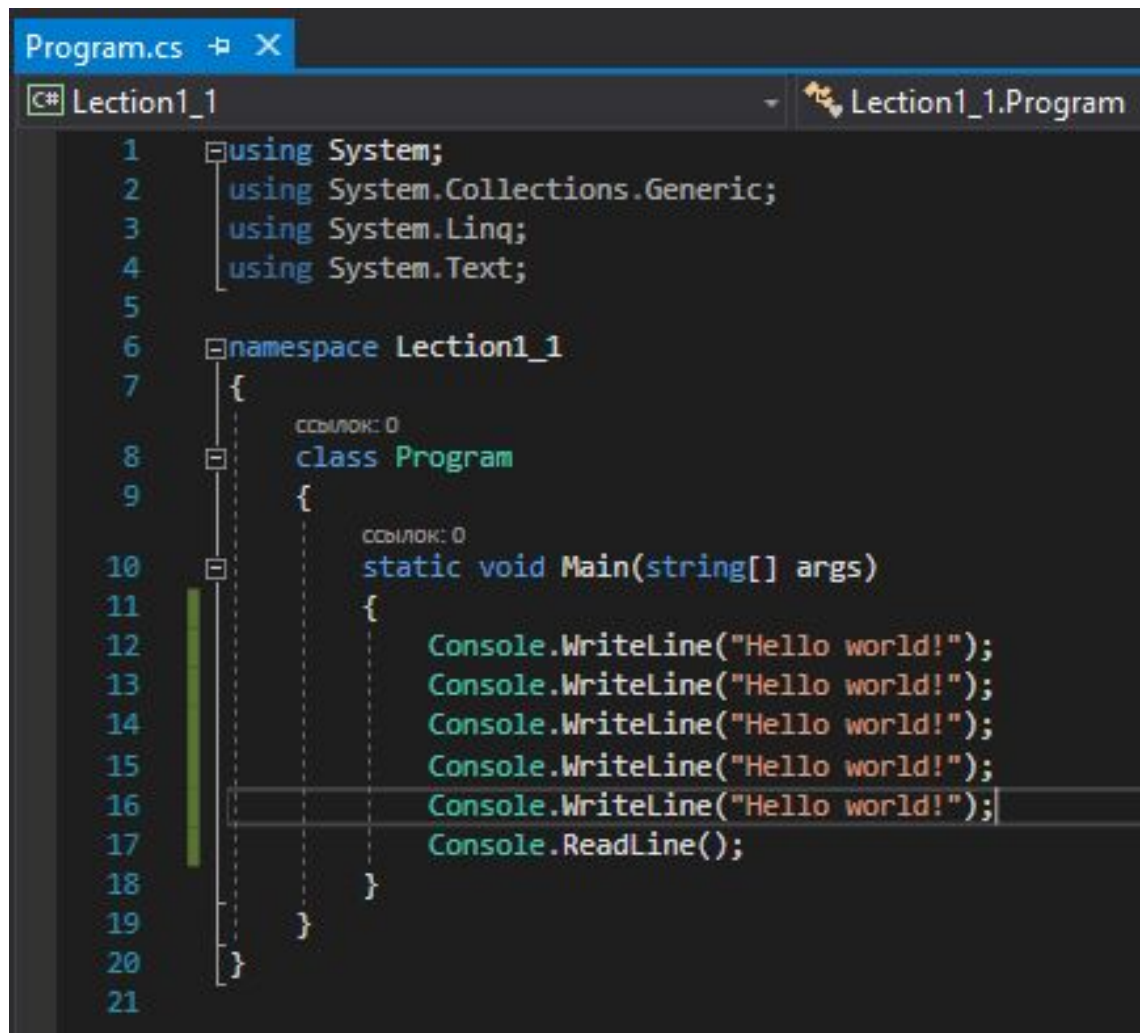


The image shows a screenshot of the Microsoft Visual Studio IDE. The title bar reads "Lecture1\_1 (выполняется) - Microsoft Visual Studio". The menu bar includes "Файл", "Правка", "Вид", "Проект", "Сборка", "Отладка", "Команда", "Сервис", "Архитектура", "Тест", "Анализ", "Окно", and "Спр". A console window is open, displaying the output "Hello world!". The console window title is "E:\АбсолютноВременно\C#\Lecti...\bin\Debug\Lecti...". The background shows a C# code file with line numbers 1 through 17.

```
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17
```

```
Program  
C# Lecti  
Hello world!
```

# Почему переменная?

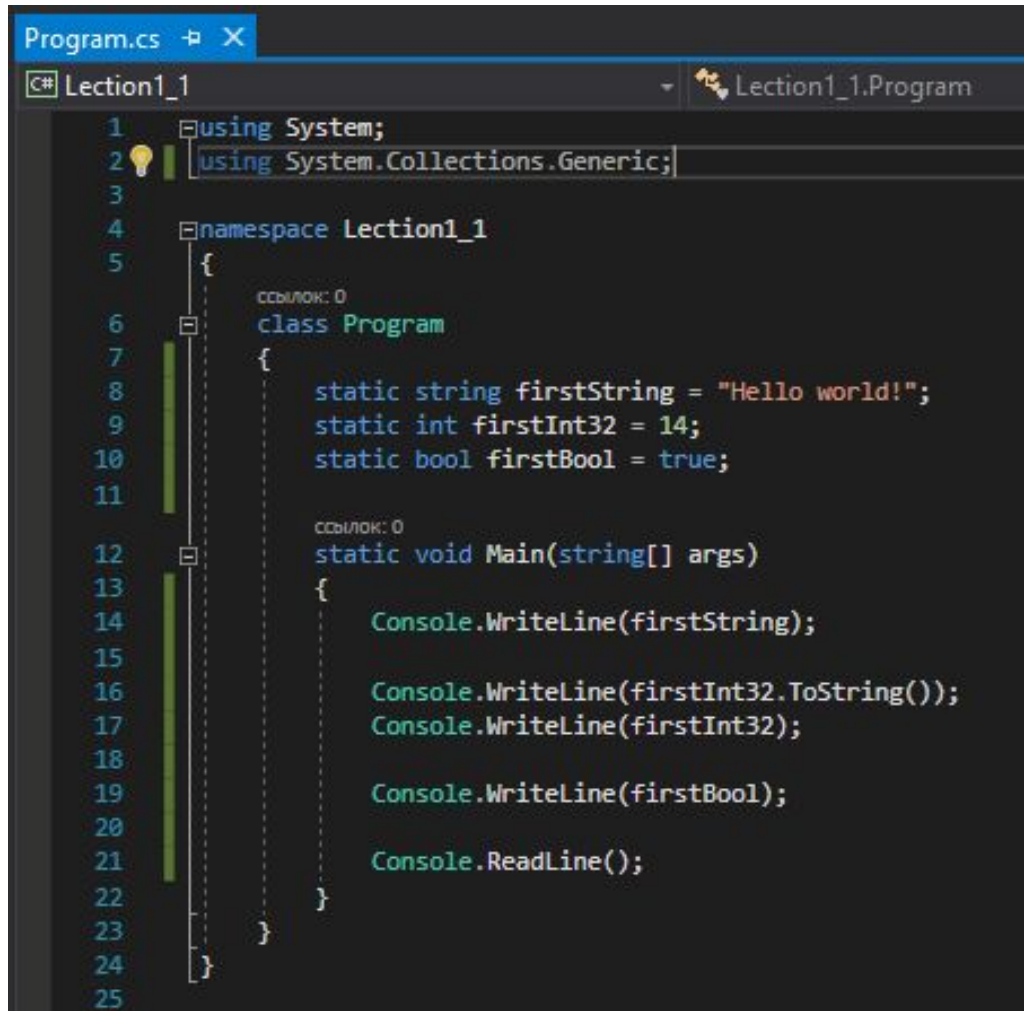


```
Program.cs  X
C# Lektion1_1  Lektion1_1.Program
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5
6  namespace Lektion1_1
7  {
8      class Program
9      {
10         static void Main(string[] args)
11         {
12             Console.WriteLine("Hello world!");
13             Console.WriteLine("Hello world!");
14             Console.WriteLine("Hello world!");
15             Console.WriteLine("Hello world!");
16             Console.WriteLine("Hello world!");
17             Console.ReadLine();
18         }
19     }
20 }
21
```

# Почему переменная?

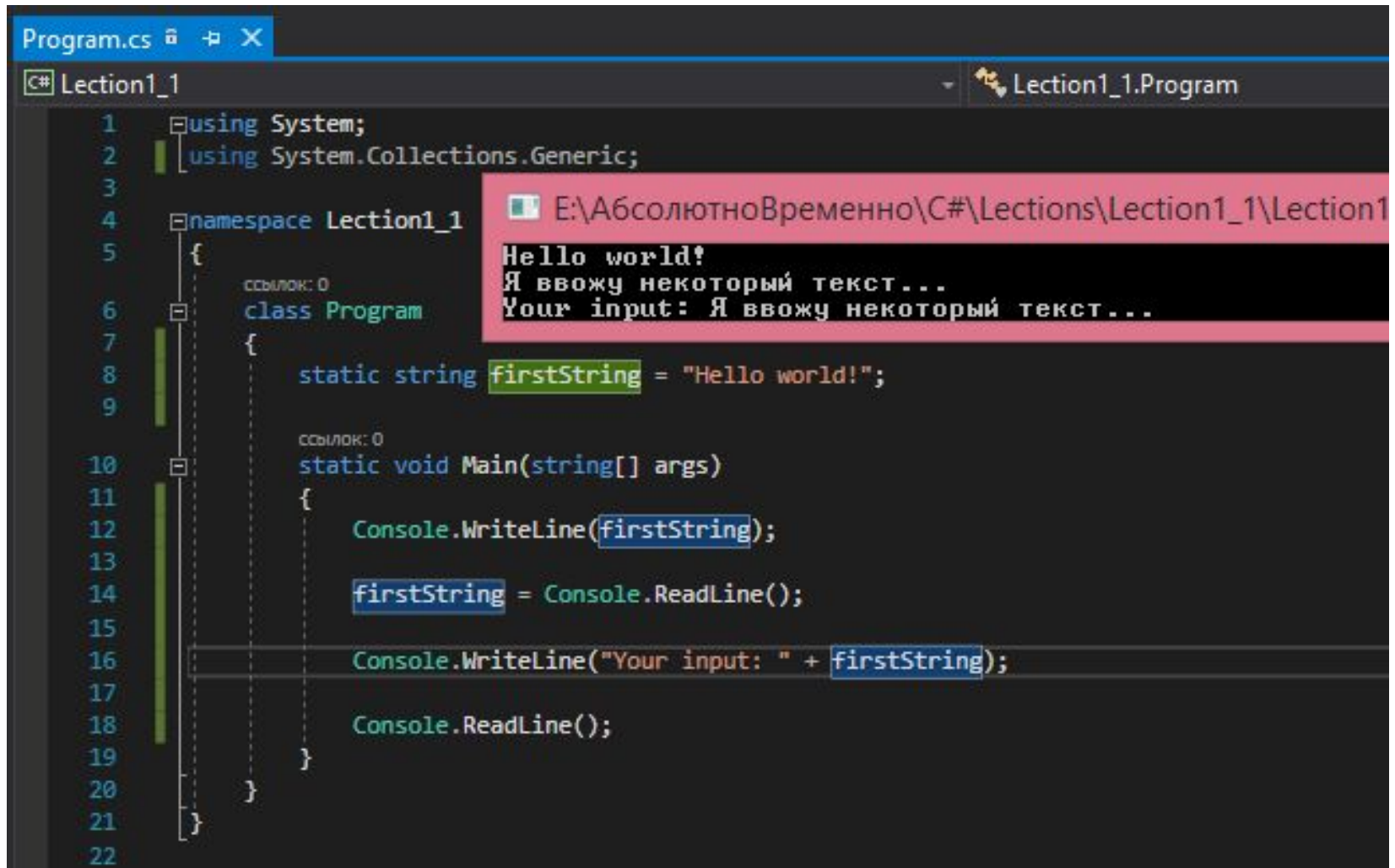
```
Program.cs  ▸ ×
C# Lektion1_1  ▾ Lektion1_1.Program
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5
6  namespace Lektion1_1
7  {
8      class Program
9      {
10         static string firstString = "Hello world!";
11
12         static void Main(string[] args)
13         {
14             Console.WriteLine(firstString);
15             Console.WriteLine(firstString);
16             Console.WriteLine(firstString);
17             Console.WriteLine(firstString);
18             Console.WriteLine(firstString);
19             Console.ReadLine();
20         }
21     }
22 }
23
```

# ToString()



```
Program.cs [X]
C# Lection1_1 Lection1_1.Program
1 using System;
2 using System.Collections.Generic;
3
4 namespace Lection1_1
5 {
6     class Program
7     {
8         static string firstString = "Hello world!";
9         static int firstInt32 = 14;
10        static bool firstBool = true;
11
12        static void Main(string[] args)
13        {
14            Console.WriteLine(firstString);
15
16            Console.WriteLine(firstInt32.ToString());
17            Console.WriteLine(firstInt32);
18
19            Console.WriteLine(firstBool);
20
21            Console.ReadLine();
22        }
23    }
24 }
25
```

# ReadLine()



```
Program.cs [C#] Lektion1_1 Lektion1_1.Program
1 using System;
2 using System.Collections.Generic;
3
4 namespace Lektion1_1
5 {
6     class Program
7     {
8         static string firstString = "Hello world!";
9
10        static void Main(string[] args)
11        {
12            Console.WriteLine(firstString);
13
14            firstString = Console.ReadLine();
15
16            Console.WriteLine("Your input: " + firstString);
17
18            Console.ReadLine();
19        }
20    }
21 }
22
```

E:\АбсолютноВременно\C#\Lectons\Lektion1\_1\Lektion1\_1\Program.cs

```
Hello world!
Я ввожу некоторый текст...
Your input: Я ввожу некоторый текст...
```



# УСЛОВИЯ

```
if (true)
{
  ...
}
```

# ЦИКЛЫ

```
for (int i = 0; i < firstString.Length; i++)
{
  Console.WriteLine(firstString[i]);
}
```

char string[int index]

# УСЛОВИЯ

```
if (true)
{
  ...
}
```

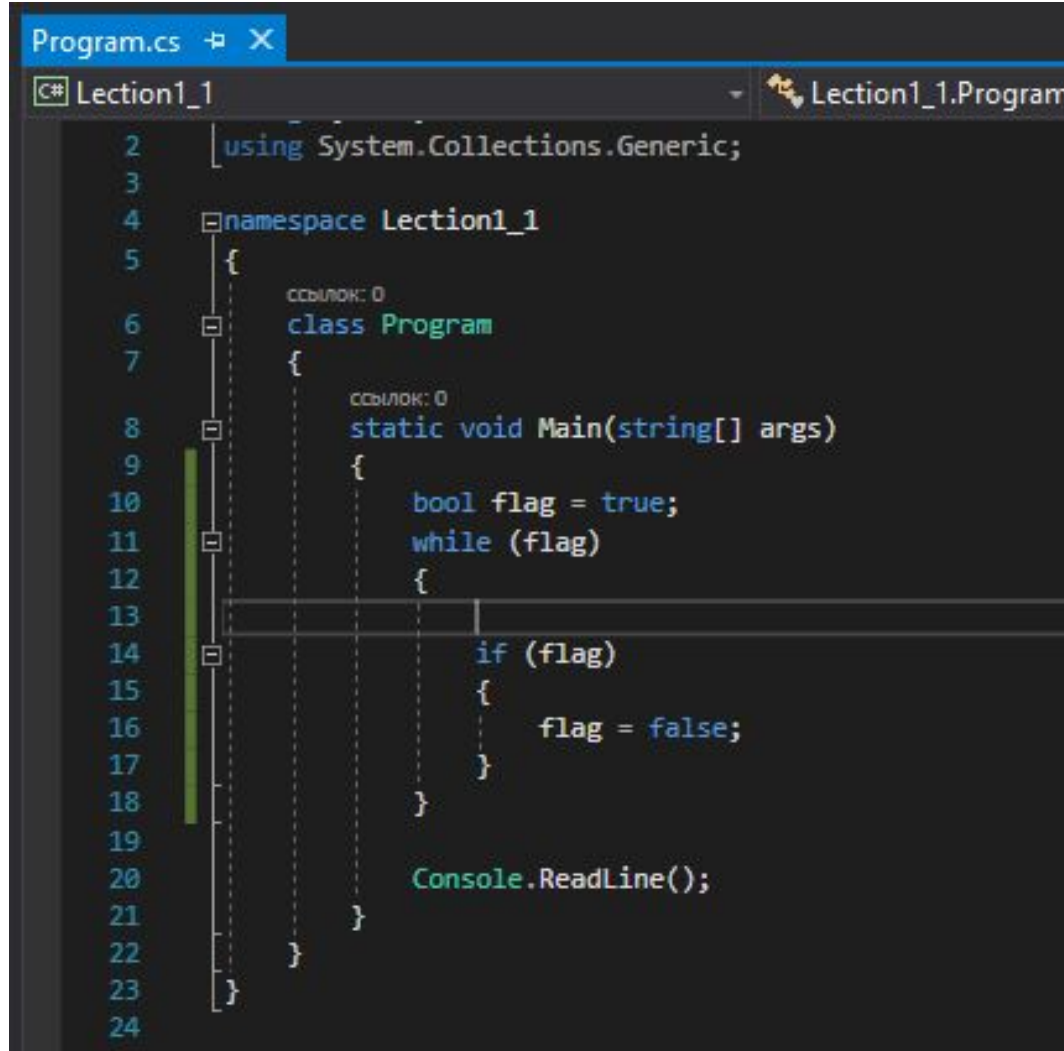
Program.cs

C# Lection1\_1

Lection1\_1.Program

```
1 using System;
2 using System.Collections.Generic;
3
4 namespace Lection1_1
5 {
6     class Program
7     {
8         static void Main(string[] args)
9         {
10             bool a = true;
11             bool b = false;
12             int u = 26;
13             //bool c = u > 0; // c равен true
14             if (a != b || b || (b && u < 0))
15             {
16                 Console.WriteLine("Я вывожу значение...");
17             }
18
19             Console.ReadLine();
20         }
21     }
22 }
23
```

# While без do

A screenshot of the Visual Studio code editor showing a C# program. The code is in a file named Program.cs. It defines a namespace Lection1\_1 and a class Program. Inside the class, there is a static void Main method that takes an array of strings as an argument. The Main method contains a while loop that runs as long as a boolean variable named 'flag' is true. Inside the while loop, there is an if statement that checks if 'flag' is true. If it is, the code sets 'flag' to false. After the while loop, the code calls Console.ReadLine(). The code is as follows:

```
2 using System.Collections.Generic;
3
4 namespace Lection1_1
5 {
6     class Program
7     {
8         static void Main(string[] args)
9         {
10             bool flag = true;
11             while (flag)
12             {
13                 if (flag)
14                 {
15                     flag = false;
16                 }
17             }
18
19             Console.ReadLine();
20         }
21     }
22 }
23
24
```

# While c do

```
Program.cs # X
[C#] Lection1_1 Lection1_1.Program
1 using System;
2 using System.Collections.Generic;
3
4 namespace Lection1_1
5 {
6     class Program
7     {
8         static void Main(string[] args)
9         {
10             bool flag = false;
11             do
12             {
13                 Console.WriteLine("Сначала делай потом думай...");
14             } while (flag);
15
16             Console.ReadLine();
17         }
18     }
19 }
20
```

# For

```
static void Main(string[] args)
{
    string text = "HelloWorld";
    int i = 0;

    while (i < text.Length)
    {
        Console.WriteLine(text[i]);
        i++;
    }

    Console.ReadLine();
}
```

char string  
Возвраща  
index: Поэ

```
static void Main(string[] args)
{
    string text = "HelloWorld";

    for (int i = 0; i < text.Length; i++)
    {
        Console.WriteLine(text[i]);
    }

    Console.ReadLine();
}
```

# Foreach

```
static void Main(string[] args)
{
    string text = "HelloWorld";

    foreach (char c in text)
    {
        Console.WriteLine(c);
    }

    Console.ReadLine();
}
```

Интерфейс IEnumerable

Интерфейс IEnumerator

using System.Collections

# String

```
static void Main(string[] args)
{
    string text = "HelloWorld";

    for (int i = 0; i < text.Length; i++)
    {
        Console.WriteLine(text[i]);
    }

    Console.ReadLine();
}
```



# String

```
ссылка: 0
static void Main(string[] args)
{
    string text = "HelloWorld";

    text.
}
Conso
```

- GetEnumerator
- GetHashCode
- GetType
- GetTypeCode
- IndexOf**
- IndexOfAny
- Insert
- IsNormalized
- LastIndexOf

`int string.IndexOf(char value) (+ 8 перегрузки)`  
Возвращает индекс первого вхождения указанного знака Юникода в данной строке.

# Массивы

```
static int _anyInt1 = 1;  
static int _anyInt2 = 2;  
static int _anyInt3 = 3;  
  
static int[] _anyInts = new int[] { 1, 2, 3, 4, 5 };
```

# Обычные массивы

```
class Program
{
    static int[] _anyInts = new int[] { 1, 2, 3, 4, 5 };

    static int[] _simpleLengthArray = new int[5];

    ССЫЛОК: 0
    static void Main(string[] args)
    {
        Console.ReadLine();
    }
}
```

```
class Program
{
    static string[] _notInitArray = null;

    ССЫЛОК: 0
    static void Main(string[] args)
    {
        int arrayLen = int.Parse(Console.ReadLine());

        _notInitArray = new string[arrayLen];

        for (int i = 0; i < _notInitArray.Length; i++)
        {
            _notInitArray[i] = Console.ReadLine();
        }

        Console.WriteLine();

        for (int i = 0; i < _notInitArray.Length; i++)
        {
            Console.WriteLine(_notInitArray[i]);
        }

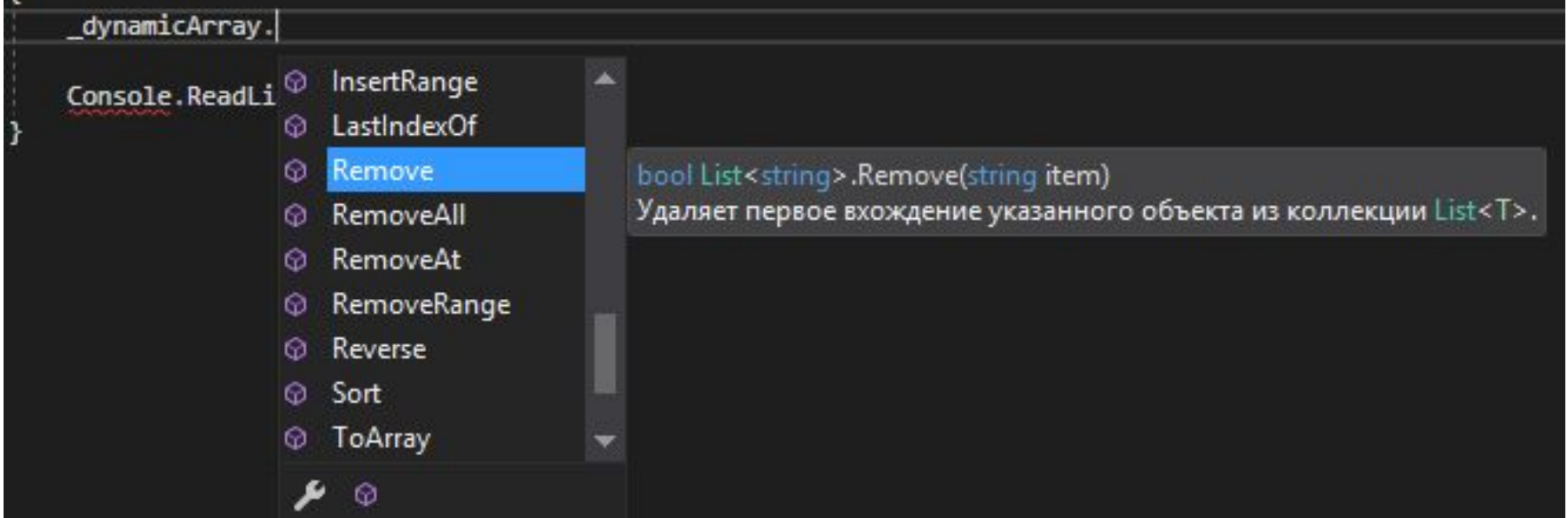
        Console.ReadLine();
    }
}
```

# Динамические массивы

```
Program.cs [X]
C# Lektion1_1 Lektion1_1.Program
1 using System;
2 using System.Collections.Generic;
3
4 namespace Lektion1_1
5 {
6     class Program
7     {
8         static List<string> _dynamicArray = new List<string>();
9
10        static void Main(string[] args)
11        {
12            while (true)
13            {
14                _dynamicArray.Add(Console.ReadLine());
15
16                if (_dynamicArray[_dynamicArray.Count-1].ToLower() == "exit")
17                {
18                    break;
19                }
20            }
21
22            Console.WriteLine("Конец считывания");
23
24            Console.ReadLine();
25        }
26    }
}
```

# Методы List'a

```
static List<string> _dynamicArray = new List<string>();  
  
ссылка: 0  
static void Main(string[] args)  
{  
    _dynamicArray.  
    Console.ReadLine  
}
```



- InsertRange
- LastIndexOf
- Remove**
- RemoveAll
- RemoveAt
- RemoveRange
- Reverse
- Sort
- ToArray

`bool List<string>.Remove(string item)`  
Удаляет первое вхождение указанного объекта из коллекции `List<T>`.

Всё! :)

# API

# JSON Serialise

```
Product product = new Product();
product.Name = "Apple";
product.Expiry = new DateTime(2008, 12, 28);
product.Sizes = new string[] { "Small" };

string json = JsonConvert.SerializeObject(product);
// {
//   "Name": "Apple",
//   "Expiry": "2008-12-28T00:00:00",
//   "Sizes": [
//     "Small"
//   ]
// }
```



# JSON Deserialise

```
string json = @"{
    'Name': 'Bad Boys',
    'ReleaseDate': '1995-4-7T00:00:00',
    'Genres': [
        'Action',
        'Comedy'
    ]
}";

Movie m = JsonConvert.DeserializeObject<Movie>(json);

string name = m.Name;
// Bad Boys
```

# JSON



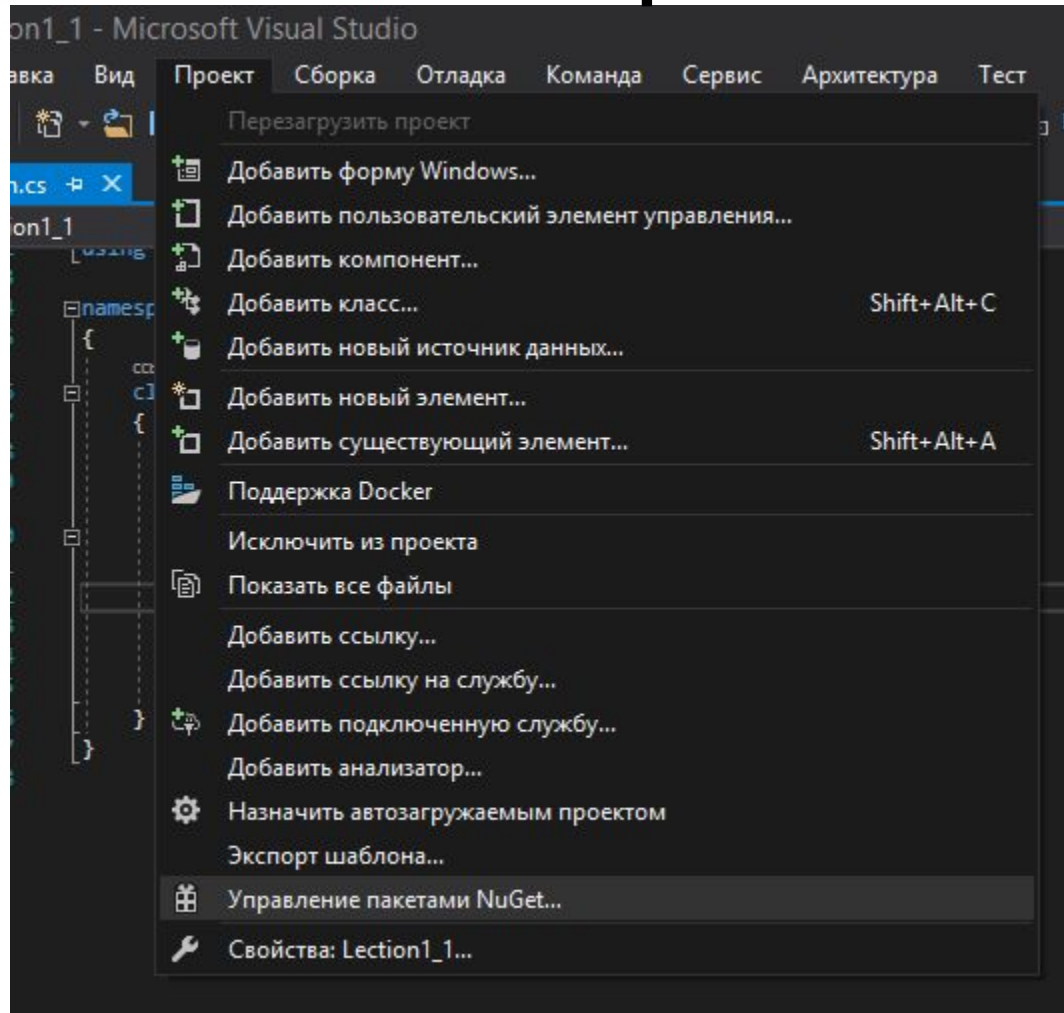
<https://www.newtonsoft.com/json>

# XML



[https://msdn.microsoft.com/ru-ru/library/system.xml.xmldocument\(v=vs.110\).aspx](https://msdn.microsoft.com/ru-ru/library/system.xml.xmldocument(v=vs.110).aspx)

# Импорт



# Импорт

