



C# programming language. The beginning

Course

Programming Languages

Semester 2, FIIT

Mayer S.F.

Mikhalkovich S.S

LECTURE # 5. Functions

Enums

Enums

```
enum Color { Red, Green, Blue };  
  
string Name(Color c)  
{  
    switch (c)  
    {  
        case Color.Red: return "Красный";  
        case Color.Green: return "Зелёный";  
        case Color.Blue: return "Синий";  
        default: return "Нет такого цвета";  
    }  
}
```

Sequences

Sequences. Range method

```
IEnumerable<int> sq;  
sq = System.Linq.Enumerable.Range(1,10);  
foreach (var x in sq)  
    Console.WriteLine($"{x} "); // 1 2 3 4 5 6 7 8 9 10
```

// What we have no in C#:

- there are no generators of sequences
- There are no extension methods

Where query (filter)

- **To do:** There is a sequence of numbers. The task is to output evens

```
Console.WriteLine("evens");
IEnumerable<int> s; // definition
s = Enumerable.Range(1, 10);
s = s.Where(x => x % 2 == 0); //2 4 6 8 10
foreach (var x in s)
{
    Console.Write($"{x} ");
}
```

Select query (projection)

- **To do:** There is a sequence of numbers. The task is to output squared numbers of the sequence

```
IEnumerable<int> s; // definition
s = Enumerable.Range(1, 10).Select(x => x * x);
foreach (var x in s)
{
    Console.Write($"{x} "); //1 4 9 16 25 36 49 64 81 100
}
Console.WriteLine();
```

Q & A