

Method

Method Declaration

```
[static] <return_type> <method_name>([<param_list>])
```


```
static double GetRectangleArea(double width, double height)
{
    double area = width * height;
    return area;
}
```

- Access modifier
- Return type
- Name
- Parameter

Hello world Method

```
1  using System;
2
3  namespace test
4  {
5      class Program
6      {
7          static void Main(string[] args)
8          {
9              Console.WriteLine("Hello, world!");
10         }
11     }
12 }
```

Method Signature

- Access modifier
- Return type
- Name 
- Parameter 

Method name

- PascalCase, start with capital letter
- Verb or verb and noun

Here some examples for well named methods:

```
Print  
GetName  
PlayMusic  
SetUserName
```

And some examples for bad named methods:

```
Abc11  
Yellow___Black  
foo  
_Bar
```

Access modifiers

- Public
- Private
- Protected
- Internal
- protected internal

Method Invocation

```
1  using System;
2
3  namespace _0120_Invoke
4  {
5      class Program
6      {
7          static double GetRectangleArea(double width, double height)
8          {
9              double area = width * height;
10             return area;
11         }
12         static void Main(string[] args)
13         {
14             double myArea = GetRectangleArea(5, 2);
15             Console.WriteLine(myArea);
16         }
17     }
18 }
19
```

Local Variable

```
1  using System;
2
3  namespace _0110_Variable_Scope
4  {
5      3 references
6      class test
7      {
8          int a = 123;
9          int b = 456;
10
11      1 reference
12      public test()
13      {
14          int a = 789;
15          int b = 1122;
16
17          Console.WriteLine(a);
18          Console.WriteLine(this.a);
19          Console.WriteLine(b);
20      }
21  }
22  0 references
23  class Program
24  {
25      0 references
26      static void Main(string[] args)
27      {
28          test myTest = new test();
29      }
30  }
```


Pass by reference

```
1  using System;
2
3  namespace _0130_Reference
4  {
5      0 references
6      class Program
7      {
8          1 reference
9          static void test(string s, ref string a)
10         {
11             s = "abc";
12             a = "def";
13         }
14         0 references
15         static void Main(string[] args)
16         {
17             String s = "hello";
18             String a = "world";
19             test(s, ref a);
20             Console.WriteLine(s); // hello
21             Console.WriteLine(a); // def
22         }
23     }
24 }
```

Exercise