

C# Language & .NET Platform 3rd Lecture

<http://d3s.mff.cuni.cz/~jezek>

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CHARLES UNIVERSITY IN PRAGUE

faculty of mathematics and physics

What is the behavior of the following program?

```
class Program {
    static void Main(string[] args) {
        int a = 10;
        int b = 0;
L1:    int c = a / b;
L2:    int d = c + 15;
L3:    Console.WriteLine(d);
    }
}
```

Option	Result
A	It will not compile.
B	It will generate a runtime error at line L1.
C	It will generate a runtime error at line L2.
D	It will generate a runtime error at line L3.
E	It will print something to the standard output.

What is the behavior of the following program?

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class Program {
    static void Main(string[] args) {
        int a = 10;
        int b = 0;
L1:    int c = a / b;
L2:    int d = c + 15;
L3:    Console.WriteLine(d);
    }
}
```

Option	Result
A	It will not compile.
B	It will generate a runtime error at line L1 – DivideByZeroException.
C	It will generate a runtime error at line L2.
D	It will generate a runtime error at line L3.
E	It will print something to the standard output.

What is the behavior of the following program?

```
class Program {  
    static void Main(string[] args) {  
        double a = 10;  
        double b = 0;  
L1:    double c = a / b;  
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Option	Result
A	It will not compile.
B	It will generate a runtime error at line L1.
C	It will generate a runtime error at line L2.
D	It will generate a runtime error at line L3.
E	It will print something to the standard output: “Infinity” or “+nekonečno” in Czech locale (see <i>double.PositiveInfinity</i> , <i>double.NegativeInfinity</i> , <i>double.NaN</i>).

What is the behavior of the following program?

```
class Program {
    static void Main(string[] args) {
        double a = 10;
        double b = -0;
L1:    double c = a / b;
L2:    double d = c + 15;
L3:    Console.WriteLine(d);
    }
}
```

-0 is an `int` value, which gets converted to 0 of `int` (there is no negative 0 in interger types), then to 0.0 of `double`.

Option	Result
A	It will not compile.
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E	It will print something to the standard output: “Infinity” or “+nekonečno” in Czech locale (see <code>double.PositiveInfinity</code> , <code>double.NegativeInfinity</code> , <code>double.NaN</code>).

What is the behavior of the following program?

```
class Program {  
    static void Main(string[] args) {  
        double a = 10;  
        double b = -0.0;  
L1:    double c = a / b;  
L2:    double d = c + 15;  
L3:    Console.WriteLine(d);  
    }  
}
```

-0.0 is a valid and unique double value, distinct from 0.0.

Option	Result
A	It will not compile.
B	It will generate a runtime error at line L1.
C	It will generate a runtime error at line L2.
D	It will generate a runtime error at line L3.
E	It will print something to the standard output: “-Infinity” or “-nekonečno” in Czech locale (see <i>double.PositiveInfinity</i> , <i>double.NegativeInfinity</i> , <i>double.NaN</i>).