

C# Language & .NET Platform 2nd Lecture

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

Department of
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Dependable
Systems



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CHARLES UNIVERSITY IN PRAGUE

faculty of mathematics and physics

How many lines will the following program print?

```
class Program {
    static void Main(string[] args) {
        for (double i = 0; i != 1; i += 0.1) {
            Console.WriteLine(i);
        }
    }
}
```

Option	Result
A	0
B	More than 0, but less than 10.
C	10
D	More than 10.
E	Program will crash with a runtime error.

How many lines will the following program print?

```
class Program {
    static void Main(string[] args) {
        for (double i = 0; i != 1; i += 0.1) {
            Console.WriteLine(i);
        }
    }
}
```

Option	Result
A	0
B	More than 0, but less than 10.
C	10
D	More than 10. (<i>Infinite cycle</i>)
E	Program will crash with a runtime error.

Excel 2.0 (1987)

The screenshot displays the Microsoft Excel 2.0 interface. The main window is titled "Microsoft Excel - GUS2.XLS" and features a menu bar with "File", "Edit", "Formula", "Format", "Data", "Options", "Macro", "Window", and "Help". The spreadsheet grid shows columns A through G and rows 1 through 22. A data table is visible in the first seven rows, with columns labeled LAST, FIRST, CITY, STATE, and DIVIDEND. The data is as follows:

	LAST	FIRST	CITY	STATE	DIVIDEND
1	Wilson	Robert	Dallas	Texas	\$46,781.00
2	Andrews	Harriet	Fort Worth	Texas	\$82,512.02
3	Ligouri	James	New Orleans	La.	\$17,431.53
4	Dalin	Bill	Shreveport	La.	\$9,312.62
5	Venditto	Elizabeth	Staten Island	New York	\$97,123.78
6	Pastrick	Samuel	Manhattan	New York	\$67,812.00

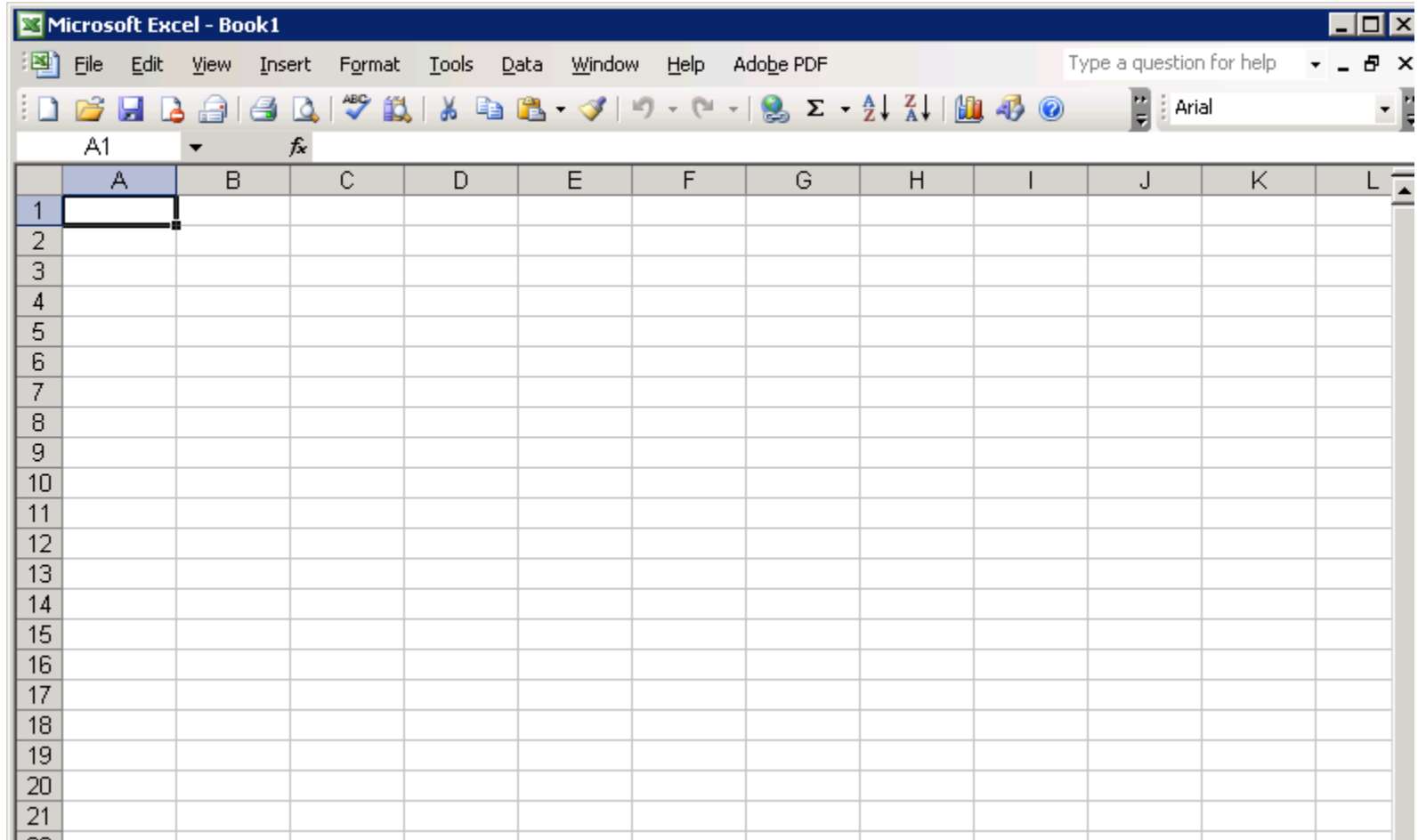
An "Options" dialog box is open over the spreadsheet, titled "GUS2.XLS". It contains input fields for "LAST:", "FIRST:", "CITY:", "STATE:", and "DIVIDEND:", with values "Wilson", "Robert", "Dallas", "Texas", and "46781" respectively. To the right of the dialog box is a vertical scrollbar and a list of buttons: "New", "Delete", "Restore", "Find Prev", "Find Next", "Criteria", and "Exit". The status bar at the bottom left reads "For Help on dialog settings, press F1".

Excel 5.0 (1994)

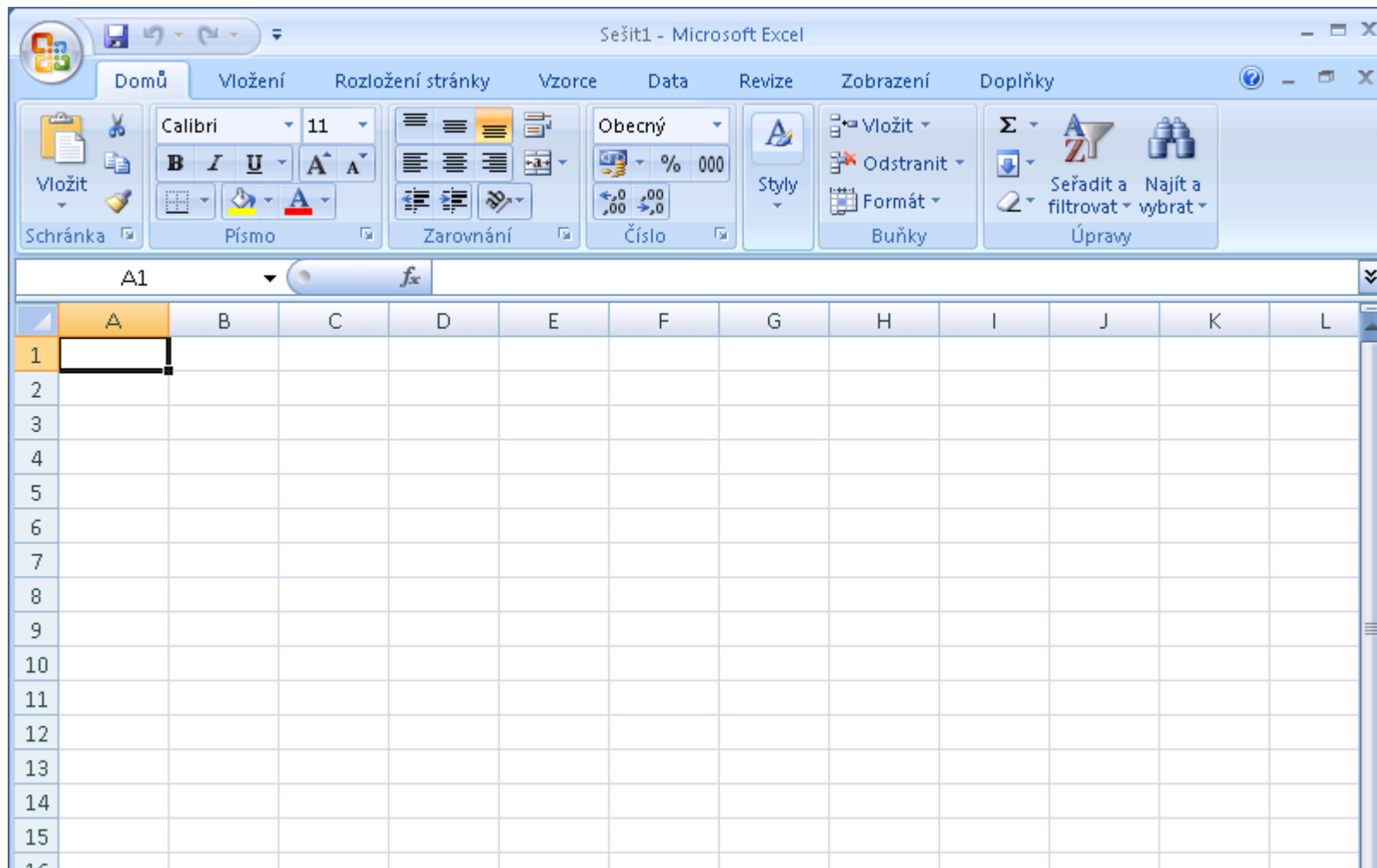
The screenshot displays the Microsoft Excel 5.0 interface. The title bar reads "Microsoft Excel - Book1". The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, and Help. The toolbar contains icons for file operations (New, Open, Save, Print, Find, Spell Check), editing (Cut, Copy, Paste, Undo, Redo), and calculation (Sum, Formula Wizard, Sort Ascending, Sort Descending). The font settings are set to Arial, size 10. The spreadsheet shows a formula in cell C1: $=0.5*600*\text{GAMMAINV}(0.5,A1,2)$. The spreadsheet data is as follows:

	A	B	C	D	E	F
1	2.862978	2.400025	1522.46			
2						
3						

Excel 2003



Excel 2007



Implicitly Typed Local Variables

Examples:

```
var i = 5;
var s = "Hello";
var d = 1.0;
var numbers = new int[] {1, 2, 3};
var orders = new Dictionary<int,Order>();
```

Are equivalent to:

```
int i = 5;
string s = "Hello";
double d = 1.0;
int[] numbers = new int[] {1, 2, 3};
Dictionary<int,Order> orders = new Dictionary<int,Order>();
```

Errors:

```
var x; // Error, no initializer to infer type from
var y = {1, 2, 3}; // Error, collection initializer not permitted
var z = null; // Error, null type not permitted
```

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);
    }
}
```

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?

```
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);
    }
}
```

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>).

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    static void Main(string[] args) {
        int a = 10;
        int b = 0;
L1:    int c = a / b;
L2:    int d = c + 15;
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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.