

Software Development Techniques

Lecture 1.1

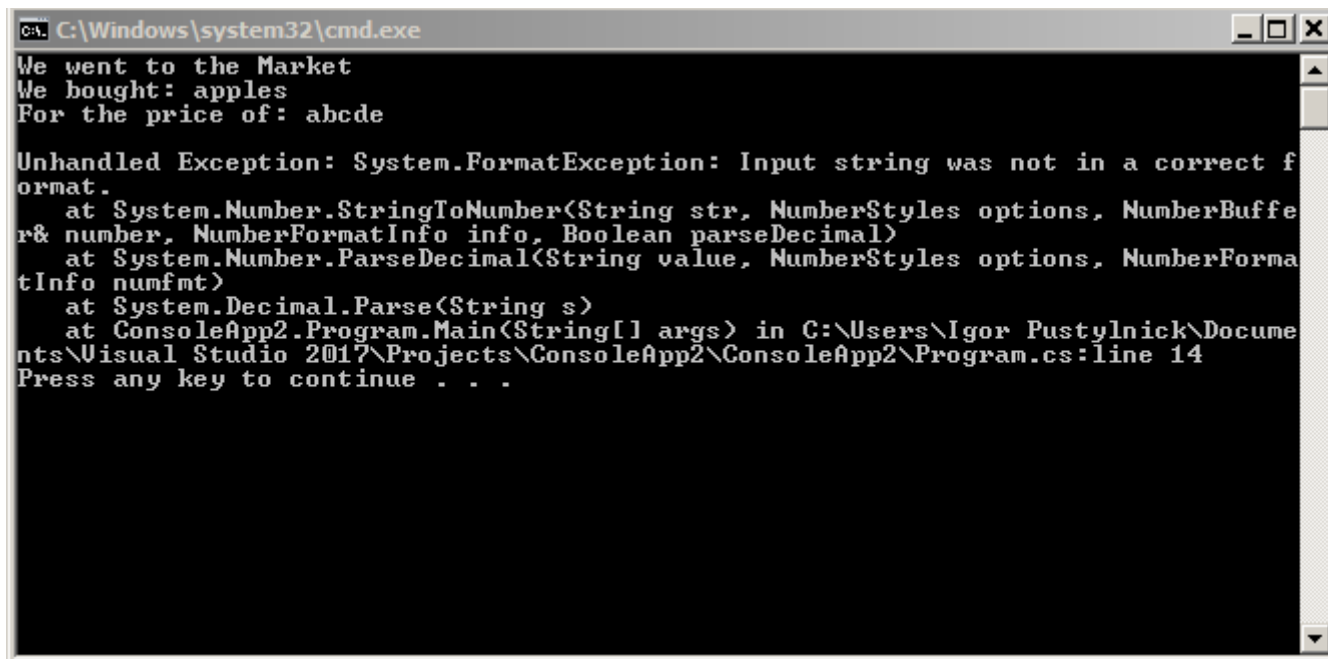
© Igor Pustynnick, 2017

Exceptions

- Sometimes our input contains wrong data
- Processing wrong data results in breaking the program
- In .NET program signals the error by throwing exception

Exception Example

- When we enter non-numeric data, we get exception



```
C:\Windows\system32\cmd.exe
We went to the Market
We bought: apples
For the price of: abcde

Unhandled Exception: System.FormatException: Input string was not in a correct format.
   at System.Number.StringToNumber(String str, NumberStyles options, NumberBuffer& number, NumberFormatInfo info, Boolean parseDecimal)
   at System.Number.ParseDecimal(String value, NumberStyles options, NumberFormatInfo numfmt)
   at System.Decimal.Parse(String s)
   at ConsoleApp2.Program.Main(String[] args) in C:\Users\Igor Pustyl'nick\Documents\Visual Studio 2017\Projects\ConsoleApp2\ConsoleApp2\Program.cs:line 14
Press any key to continue . . .
```

Simplest Way to Handle Exceptions

- Exceptions are handled using try-catch construct
- The block of code for which we handle exception(s) is placed between try and catch
- The reaction to the exception is placed in the catch block

```
try
{
    Console.WriteLine("We went to the Market");
    Console.Write("We bought: ");
    string fruit = Console.ReadLine();
    Console.Write("For the price of: ");
    string priceString = Console.ReadLine();
    decimal price = decimal.Parse(priceString);
    Console.Write("By weight of: ");
    string weightString = Console.ReadLine();
    decimal weight = decimal.Parse(weightString);
    decimal total = price * weight;
    Console.WriteLine("We bought {0} and paid: {1}", fruit,
        total.ToString("c"));
    Console.ReadLine();
} catch (Exception e)
{
    Console.WriteLine(e.Message);
}
```

Running Program Again

- The wrong input is entered

```
We went to the Market  
We bought: apples  
For the price of: abcde
```

- The program reacts with processing exception and showing what error had occurred

```
We went to the Market  
We bought: apples  
For the price of: abcde  
Input string was not in a correct format.  
Press any key to continue . . .
```

- The idea is not keep program running but rather allowing it to exit gracefully