Learning to Program with F#
Exercises
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0.1 My first Fsharp program

0.1.1: Start an interactive F# session and type the following ending with a newline: `3.14+2.78;;`
Describe what F# did and if there was an error, find it and repeat.

0.1.2: Repeat Exercise **??**, but this time, type the code in a text editor and save the result in a file with the suffix `.fsx`. Run through `fsharpi` from the console, and by first compiling it with `fsharpc` and executing the compiled file using `mono`. Consider whether the result was as expected and why.

0.1.3: Write an expression which concatenates the strings `"hello"`, `" "`, `"world"` and run it in F#.

0.1.4: Type the following expression in F# interactive mode, `3 + 1.0;;` and explain the result. Consider whether you can improve the expression.

0.1.5: Using pen and paper:

    a) Write the integer 3_{10} on binary form by using the divide-by-2 algorithm.

    b) Write the integer 1001_2 on decimal form using the multiply-by-2 algorithm.

    c) Write the integer 47_{10} on hexadecimal and octal form.

0.1.6: Enter the integer 47_{10} on hexadecimal, octal, and floating-point form in F# and verify that all represents the same value.

0.1.7: Use pen and paper to complete the following table

Decimal	Binary	Hexadecimal	Octal
10			
	10101		
		2f	
			73

such that every row represents the same value written on 4 different forms.

0.1.8: Write the truth table for the boolean expression a **or** b **and** c, where a, b, and c are boolean values.

0.1.9: Consider the F#-expression `164uy+230uy`. Explain what `"uy"` means, compute the expression with `fsharpi`, and discuss the result.

0.1.10: Write an F#-expression for a string that contains the characters "edb" solely by using unicode escape codes.

0.1.11: Write an F#-expression which extracts the 3. element and the substring from the 2. to the 4. element in the string "abcdef".

0.1.12: Using slicing, write an expression in F# which extracts the first and the second word from the string "hello world".

0.1.13: Consider the F#-expression `"hello\nworld\n"`. Explain what the "\n" means, evaluate the expression using F# and discuss the result.

0.1.14: Write an F#-expression for a string which contains the character sequence "\n", but where "\n" is not converted to a newline. How many different ways can this be done?