

**Exercise 1**

Last update January 24, 2026

This exercise sheet must be handed in via LearnIT.

You solve and handin your assignment as a group.

Your name must be part of the filename, e.g., `FP-01-<group><name><name>.fsx`. An example:  
`FP-01-DeEnesteTo-MadsAndersen-KirstenKnudsen.fsx`.

You can only hand in one file and it must be of type `fs` or `fsx`.

It is important that you annotate your own code with comments. It is also important that you apply a functional style, i.e., no loops and no mutable variables.

You can see corresponding Java solutions in file `handin01_1.java`.

You are not allowed to use any AI tooling.

**Exercise 1.1** Write a function `sqr : int -> int` so that `sqr x` returns  $x^2$ .

**Exercise 1.2** Write a function `pow : float -> float -> float` so that `pow x n` returns  $x^n$ .

You can use the library function: `System.Math.Pow`.

**Exercise 1.3** Solve HR, exercise 1.1

**Exercise 1.4** Solve HR, exercise 1.2

**Exercise 1.5** Solve HR, exercise 1.4

**Exercise 1.6** Solve HR, exercise 1.5

**Exercise 1.7** Solve HR, exercise 1.6

**Exercise 1.8** Solve HR, exercise 1.7

The function `fact` is found on page 8 in HR.

The function `power` is found on page 11 in HR.

**Exercise 1.9** Solve HR, exercise 1.8