

# Functional Programming

## Exercise 0: Getting Started

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### Getting started with OCaml

1. Install the OCaml compiler on your computer by getting the source code or pre-compiled binary at <http://caml.inria.fr/ocaml/release.en.html>
2. Start the top-level interpreter of OCaml by typing the following at the command line:

```
ocaml
```

Then you see something like

```
OCaml version 4.00.0
```

```
#
```

on the screen. # is the OCaml prompt. You exit the interpreter loop by typing ^D (control-D).

3. Type the following characters after the prompt:

```
let rec fac n =
  if n <= 1 then 1 else n * fac (n - 1);;
```

Note the additional characters “;;” which tells the interpreter to get to work on your input now.

You shall see

```
val fac : int -> int = <fun>
#
```

4. After the prompt, type

```
let x = fac 3;;
```

You shall see

```
val x : int = 6
#
```

## Loading your program from a file

1. Invoke your favorite editor, put the following two lines, and save the file to `ex00.ml`:

```
let rec fac n =
  if n <= 1 then 1 else n * fac (n - 1)
let x = fac 3
```

Note that you don't need the additional “`;;`” characters at the end of a line.

2. Invoke the O'Caml interpreter, after the prompt, type

```
#use "ex00.ml";;
```

You shall see

```
val fac : int -> int = <fun>
val x : int = 6
#
```

3. Try the following after the prompt:

```
let _ = fac 4;;
```

Note: the character `_` means you don't care about the identifier to which the value of `fac 4` will be bound.

Congratulations! You have just completed Exercise 0; now you are on your own.