

Functional Programming: Exercise 1

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Getting started with O'Caml

- ▶ You can install the O'Caml compiler on your computer, or use the one at

`quine.iis.sinica.edu.tw`

- ▶ Start the top-level interpreter of O'Caml by typing the following at the command line:

```
ocaml
```

Then you see

```
Objective Caml version 3.10.0
```

```
#
```

on the screen. # is the O'Caml prompt. You exit the interpreter loop by typing `^D` (control-D).

The factorial example

- ▶ 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>  
#
```

- ▶ After the prompt, type

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

You shall see

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

Loading your program from a file

- ▶ Invoke your favorite editor, put the following two lines, and save the file to `ex1.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.

- ▶ Invoke the O'CamL interpreter, after the prompt, type

```
use "ex1.ml";;
```

You shall see

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

- ▶ 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.

Congratulation ...

- ▶ ...you have just completed Exercise 1;
- ▶ ...now you are on your own.