FPV Week 5 *

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1 Basics of Ocaml

- Basic types: int, float, bool, string, char
- Comparator: = for equality, ¡¿ for inequality, == and != do exist but compare the physical address
- Numerical Operator: + ,- ,* ,/ , mod for ints and +. ,-. ,*. ,/. for floats
- Logical Operator: not, ||, &&, almost same as Java
- List: stack-like data structure only access at the beginning.
- concatenation: ˆ for string, :: for single list item, @ for lists

*All contents are based on the Artemis exercises and lecture slides of Prof. Seidl. No content is guaranteed to be totally correct.

2 Syntax

- if-then-else: don't drop else!
- pattern matching: (match a with b -> ... — c -> ...)compiler does not easily deduct the type, since we don't add type at notations
- begin...end: useful to make codes more readable, better than the brackets
- declaration and assignment: let a = b in..., overwriting the previous variable when the same name used
- record: simple type with several properties, no function defined
- tuple: normal but not recommended (by me) necessary.

3 Functions

1. Idea: functions as variables, can be passed or a property
2. Definition: let (rec) func a b c ... = ,where func is the name of the function, rec is the recursive sign, a b c are all variables concerned.

   Important: don't pass variables as tuple into the function all, no comma is needed!
3. function: function is a keyword for pattern matching esp. for a function. No difference just for preference.
4. λs: given by the keyword fun, fun x -> your function body