

# CS383 Programming Languages

## Quiz 14

# 1. Which expression is correct in OCaml?

- a. `# 42 + 18.3;;`
- b. `# 42 +. 18.3;;`
- c. `# 42 + int_of_float 18.3;;`
- d. `# 42 +. int_of_float 18.3;;`

## 2. Which expression is correct in OCaml?

- a. `# If 1 then 38 else 90;;`
- b. `# If 1 then 38 else "90";;`
- c. `# If 3=4 then 38 else "90";;`
- d. `# If 3=4 then 38 else 90;;`

3. This expression

let  $a = 4$  in

let  $a = a + 2$  in

let  $a = a * 2$  in

$a$

evaluates to:

a. 8

b. 12

c. 6

d. 10

## 4. Which is correct about list in OCaml?

- a. We can concatenate two lists by using `@`
  - b. Elements in a list are separated by `,`
  - c. We can have a list of elements with different types
  - d. We use `::` to append an element to the end of a list
- `7::[5;3]` gives `[7;5;3]`

5. The following expression

let rec length = function

    [] -> 0

| \_ :: tl -> 1 + length tl;;

uses

a) tail recursion

b) no tail recursion

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## Quiz 15

1. We have two source files called `amodule.ml` and `bmodule.ml`. Which is the correct order of steps to compile and run these files?

- ① `ocamlc -c amodule.ml`
- ② `ocamlc -o main amodule.cmo bmodule.cmo`
- ③ `./main`
- ④ `ocamlc -c bmodule.ml`

A. ② ③ ① ④

B. ③ ② ④ ①

C. ① ④ ② ③

D. ④ ① ③ ②

`amodule.ml`

```
let hello () = print_endline "Hello World"
```

`bmodule.ml`

```
let () = Amodule.hello ()
```



2. Which of the following statements is false for option type?

A.  $t$  option is a type for every type  $t$ .

B. None is a value of type 'a option.

C. Some  $e$  is an expression of type  $t$  option if  $e : t$ .

D. Some is a null pointer.

3. What is the output of the following program?

```
exception My_ex of int;;
```

```
let ex b =
```

```
    try
```

```
        if b then
```

```
            raise (My_ex(1))
```

```
        else
```

```
            raise (My_ex(0))
```

```
    with My_ex(n) -> n;;
```

```
print_int(ex false);;
```

0

4. Which of the following expression is **not** of type unit?

A. **# let a = 4 in a+2;;**

B. # print\_endline "Hello World!";;

C. # ();;

D. # ignore "Hello World!";;

5. Write the type and value of variable **c** after executing the following steps.

```
# let a = [|1;2;3;4|];;
```

```
# let b = Array.make 2 0;; b=[|0,0|]
```

```
# a.(a.(0))<- a.(3);; a=[|1;4;3;4|]
```

```
# let c = Array.append a b;;
```

Type: int array

Value:[|1; 4; 3; 4; 0; 0|]