



► Introduction and overview

▼ Basic types, definitions and functions

Table of Contents

Basic Data Types

Week 1 Échéance le déc 12, 2016 at 23:30 UTC



More Data Types

Week 1 Échéance le déc 12, 2016 at 23:30 UTC



Expressions

Week 1 Échéance le déc 12, 2016 at 23:30 UTC



Definitions

Week 1 Échéance le déc 12, 2016 at 23:30 UTC



Functions

Week 1 Échéance le déc 12, 2016 at 23:30 UTC



Recursion

Week 1 Échéance le déc 12, 2016 at 23:30 UTC



► Basic data structures

► More advanced data structures

► Higher order functions

► Exceptions, input/output and imperative constructs

► Modules and data abstraction

SIMPLE FUNCTIONS OVER INTEGERS (20/20 points)

Let's define two functions working with integers:

1. `multiple_of` that takes two integer parameters, `n` and `d`, and determines whether `n` is a multiple of `d`. The function must return a boolean value. This function can be written without recursion. Look at the operators defined on integers in sequence 1.
2. `integer_square_root` that calculates the *integer square root* of a positive integer `n`, that is the largest integer `r` such that `r * r <= n`. **Hint:** you may use floating point arithmetic, but don't forget that you have to convert explicitly between `float` and `int`.

YOUR OCAML ENVIRONMENT

```
1 let multiple_of n d =  
2   n mod d = 0;;  
3  
4 let integer_square_root n =  
5   let intn = float_of_int n in  
6   int_of_float (sqrt intn);;  
7 |
```

Evaluate >

Switch >>

Typecheck

Reset Templ

Full-screen |

Check & Sa

Exercise complete (click for details)

20 pts

Completed, 10 pts

▼ Exercise 1: multiple_of

Found multiple_of with compatible type.

Computing multiple_of 4 2

Correct value true

1 pt

Computing multiple_of 8 3

Correct value false

1 pt

Computing multiple_of 13 2

Correct value false

1 pt

Computing multiple_of 12 4

Correct value true

1 pt

Computing multiple_of 2 1

Correct value true

1 pt

Computing multiple_of -1 -2

Correct value false

1 pt

Computing multiple_of 1 -4

Correct value false

1 pt

Computing multiple_of 1 -1

Correct value true

1 pt

Computing multiple_of 1 2

Correct value false

1 pt

Computing multiple_of -4 4

Correct value true

1 pt

▼ Exercise 2: integer_square_root

Completed, 10 pts

Found integer_square_root with compatible type.



Correct value 4	1 pt
Computing integer_square_root 144	
Correct value 12	1 pt
Computing integer_square_root 89	
Correct value 9	1 pt
Computing integer_square_root 9643	
Correct value 98	1 pt
Computing integer_square_root 9639	
Correct value 98	1 pt
Computing integer_square_root 702	
Correct value 26	1 pt
Computing integer_square_root 4945	
Correct value 70	1 pt
Computing integer_square_root 4207	
Correct value 64	1 pt
Computing integer_square_root 8744	
Correct value 93	1 pt

[A propos](#)[Aide](#)[Contact](#)[Conditions générales d'utilisation](#)[Charte utilisateurs](#)[Politique de confidentialité](#)[Mentions légales](#)

POWERED BY
OPENedX