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Last login: Wed Jan 25 15:22:43 on ttys014
carbon:public-class-repo$ utop
                Welcome to utop version 1.14 (using OCaml version 4.01.0)!

Type #utop_help for help about using utop.

─( 15:32:58 )─< command 0 >──────────────────────────────────────{ counter: 0 }─
utop # #use "jan_25.ml";;
val is_empty : 'a list -> bool = <fun>
─( 15:32:58 )─< command 1 >──────────────────────────────────────{ counter: 0 }─
utop # is_empty [1] ;;
- : bool = false
─( 15:40:44 )─< command 2 >──────────────────────────────────────{ counter: 0 }─
utop # is_empty [] ;;
- : bool = true
─( 15:40:49 )─< command 3 >──────────────────────────────────────{ counter: 0 }─
utop # is_empty_1 [1;2;3] ;;
Error: Unbound value is_empty_1
Did you mean is_empty?
─( 15:41:13 )─< command 4 >──────────────────────────────────────{ counter: 0 }─
utop # #use "jan_25.ml";;
val is_empty_1 : 'a list -> bool = <fun>
val is_empty_2 : 'a list -> bool = <fun>
val is_empty_3 : 'a list -> bool = <fun>
val is_empty_4 : 'a list -> bool = <fun>
─( 15:45:30 )─< command 5 >──────────────────────────────────────{ counter: 0 }─
utop # is_empty_1 [1;2;3] ;;
- : bool = false
─( 15:45:38 )─< command 6 >──────────────────────────────────────{ counter: 0 }─
utop # is_empty_1 ;;
- : 'a list -> bool = <fun>
─( 15:45:39 )─< command 7 >──────────────────────────────────────{ counter: 0 }─
utop # [ 1 ; 'c' ; 7 ] ;;
Error: This expression has type char but an expression was expected of type int
─( 15:45:44 )─< command 8 >──────────────────────────────────────{ counter: 0 }─
utop # [ 'c' ; 1 ; 7 ] ;;
Error: This expression has type int but an expression was expected of type char
─( 15:49:42 )─< command 9 >──────────────────────────────────────{ counter: 0 }─
utop #  'c' :: 1 :: 7 :: [] ;;
Error: This expression has type int but an expression was expected of type char
─( 15:50:19 )─< command 10 >─────────────────────────────────────{ counter: 0 }─
utop # #use "jan_25.ml";;
val is_empty_1 : 'a list -> bool = <fun>
val is_empty_2 : 'a list -> bool = <fun>
val is_empty_3 : 'a list -> bool = <fun>
val is_empty_4 : 'a list -> bool = <fun>
File "jan_25.ml", line 18, characters 2-28:
Warning 8: this pattern-matching is not exhaustive.
Here is an example of a value that is not matched:
[]
val head : 'a list -> 'a = <fun>
```

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─( 15:50:40 )─< command 11 >──────────────────────────────────────{ counter: 0 }─
utop # head [1;2] ;;
- : int = 1
─( 15:59:24 )─< command 12 >──────────────────────────────────────{ counter: 0 }─
utop # head ['n' ] ;;
- : char = 'n'
─( 16:00:03 )─< command 13 >──────────────────────────────────────{ counter: 0 }─
utop # head [ ] ;;
Exception: Match_failure ("jan_25.ml", 18, 2).
─( 16:00:10 )─< command 14 >──────────────────────────────────────{ counter: 0 }─
utop # #use "jan_25.ml";;
val is_empty_1 : 'a list -> bool = <fun>
val is_empty_2 : 'a list -> bool = <fun>
val is_empty_3 : 'a list -> bool = <fun>
val is_empty_4 : 'a list -> bool = <fun>
val head : 'a list -> 'a = <fun>
─( 16:00:18 )─< command 15 >──────────────────────────────────────{ counter: 0 }─
utop # head [ ] ;;
Exception: Failure "hey genius, not empty lists allowed".
─( 16:01:05 )─< command 16 >──────────────────────────────────────{ counter: 0 }─
utop # List.hd ;;
- : 'a list -> 'a = <fun>
─( 16:01:09 )─< command 17 >──────────────────────────────────────{ counter: 0 }─
utop # List;hd [] ;;
Error: Unbound constructor List
─( 16:01:21 )─< command 18 >──────────────────────────────────────{ counter: 0 }─
utop # List.hd [] ;;
Exception: Failure "hd".
─( 16:01:26 )─< command 19 >──────────────────────────────────────{ counter: 0 }─
utop # #use "jan_25.ml";;
val is_empty_1 : 'a list -> bool = <fun>
val is_empty_2 : 'a list -> bool = <fun>
val is_empty_3 : 'a list -> bool = <fun>
val is_empty_4 : 'a list -> bool = <fun>
val head : 'a list -> 'a = <fun>
val head' : 'a option list -> 'a option = <fun>
─( 16:01:31 )─< command 20 >──────────────────────────────────────{ counter: 0 }─
utop # #use "jan_25.ml";;
val is_empty_1 : 'a list -> bool = <fun>
val is_empty_2 : 'a list -> bool = <fun>
val is_empty_3 : 'a list -> bool = <fun>
val is_empty_4 : 'a list -> bool = <fun>
val head : 'a list -> 'a = <fun>
val head' : 'a list -> 'a option = <fun>
─( 16:03:05 )─< command 21 >──────────────────────────────────────{ counter: 0 }─
utop # head' [] ;;
- : 'a option = None
─( 16:04:13 )─< command 22 >──────────────────────────────────────{ counter: 0 }─
utop # head' [1;2;3] ;;
- : int option = Some 1
─( 16:04:28 )─< command 23 >──────────────────────────────────────{ counter: 0 }─
utop # match head' [1;2;3] with
       | None -> "the list was empty"
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       | Some x -> "the wasn't empty" ;;
- : string = "the wasn't empty"
─( 16:04:32 )─< command 24 >──────────────────────────────────────{ counter: 0 }─
utop # #use "jan_25.ml";;
val is_empty_1 : 'a list -> bool = <fun>
val is_empty_2 : 'a list -> bool = <fun>
val is_empty_3 : 'a list -> bool = <fun>
val is_empty_4 : 'a list -> bool = <fun>
val head : 'a list -> 'a = <fun>
val head' : 'a option list -> 'a option = <fun>
─( 16:05:13 )─< command 25 >──────────────────────────────────────{ counter: 0 }─
utop # head' [None] ;;
- : 'a option = None
─( 16:05:46 )─< command 26 >──────────────────────────────────────{ counter: 0 }─
utop # head'[ Some 4; None ] ;;
- : int option = Some 4
─( 16:07:06 )─< command 27 >──────────────────────────────────────{ counter: 0 }─
utop # head'[ 1; ;2 ] ;;
Error: Syntax error
─( 16:07:17 )─< command 28 >──────────────────────────────────────{ counter: 0 }─
utop # head'[ 1; 2 ] ;;
Error: This expression has type int but an expression was expected of type
         'a option
─( 16:07:45 )─< command 29 >──────────────────────────────────────{ counter: 0 }─
utop # #use "jan_25.ml";;
val is_empty_1 : 'a list -> bool = <fun>
val is_empty_2 : 'a list -> bool = <fun>
val is_empty_3 : 'a list -> bool = <fun>
val is_empty_4 : 'a list -> bool = <fun>
val head : 'a list -> 'a = <fun>
val head' : 'a list -> 'a option = <fun>
File "jan_25.ml", line 32, characters 39-41:
Error: Unbound value lt
─( 16:07:49 )─< command 30 >──────────────────────────────────────{ counter: 0 }─
utop # #use "jan_25.ml";;
val is_empty_1 : 'a list -> bool = <fun>
val is_empty_2 : 'a list -> bool = <fun>
val is_empty_3 : 'a list -> bool = <fun>
val is_empty_4 : 'a list -> bool = <fun>
val head : 'a list -> 'a = <fun>
val head' : 'a list -> 'a option = <fun>
val drop_value : 'a -> 'a list -> 'a list = <fun>
─( 16:12:11 )─< command 31 >──────────────────────────────────────{ counter: 0 }─
utop # drop_value 2 [1;2;3;4;2;5];;
- : int list = [1; 3; 4; 5]
─( 16:12:21 )─< command 32 >──────────────────────────────────────{ counter: 0 }─
utop # (1 , "hello");;
- : int * string = (1, "hello")
─( 16:12:27 )─< command 33 >──────────────────────────────────────{ counter: 0 }─
utop # (1 , "hello", 'e');;
- : int * string * char = (1, "hello", 'e')
─( 16:15:21 )─< command 34 >──────────────────────────────────────{ counter: 0 }─
utop # let t = (1 , "hello", 'e');;
```

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val t : int * string * char = (1, "hello", 'e')
─( 16:15:40 )─< command 35 >──────────────────────────────────{ counter: 0 }─
utop # let sndtrp t = match t with
       | (e1, e2, e3) -> e2 ;;
val sndtrp : 'a * 'b * 'c -> 'b = <fun>
─( 16:15:51 )─< command 36 >──────────────────────────────────{ counter: 0 }─
utop # let m = [ ("dog", 1); ("chicken", 2) ] ;;
val m : (string * int) list = [("dog", 1); ("chicken", 2)]
─( 16:16:27 )─< command 37 >──────────────────────────────────{ counter: 0 }─
utop #
```

Arg	Arith_status	Array	ArrayLabels	Assert_failure	Big_int	Bigarray	Buffer	Call