```
Last login: Fri Apr 6 15:35:27 on ttys008
carbon:$ utop
come to utop version 2.0.2 (using OCaml version 4.06.
Type #utop_help for help about using utop.
-( 15:46:50 )-< command 0 >-----{ counter: 0 }-
utop # #quit;;
carbon:$ cd Search/
carbon:$ utop
come to utop version 2.0.2 (using OCaml version 4.06.
Type #utop_help for help about using utop.
-( 15:47:01 )-< command 0 >-----{ counter: 0 }-
utop # #use "wolf.ml";;
val is_not_elem : 'a list -> 'a -> bool = <fun>
type loc = L \mid R
type state = loc * loc * loc * loc
val ok state : state -> bool = <fun>
val final : loc * loc * loc * loc -> bool = <fun>
val other side : loc -> loc = <fun>
val moves : state -> state list = <fun>
File "wolf.ml", line 83, characters 6-270:
Warning 8: this pattern-matching is not exhaustive.
Here is an example of a case that is not matched:
:: :: ::
val crossing_v1 : unit -> state list option = <fun>
exception FoundPath of (loc * loc * loc * loc) list
File "wolf.ml", line 104, characters 6-360:
Warning 8: this pattern-matching is not exhaustive.
Here is an example of a case that is not matched:
_::_::_::_
File "wolf.ml", line 114, characters 9-17:
Error: This function has type
        state -> state list -> unit
       It is applied to too many arguments;
      maybe you forgot a `;'.
utop # #use "wolf.ml";;
val is not elem : 'a list -> 'a -> bool = <fun>
type loc = L \mid R
type state = loc * loc * loc * loc
val ok state : state -> bool = <fun>
val final : loc * loc * loc * loc -> bool = <fun>
val other side : loc -> loc = <fun>
val moves : state -> state list = <fun>
File "wolf.ml", line 83, characters 6-270:
```

```
Warning 8: this pattern-matching is not exhaustive.
Here is an example of a case that is not matched:
:: :: ::
val crossing v1 : unit -> state list option = <fun>
exception FoundPath of (loc * loc * loc * loc) list
File "wolf.ml", line 104, characters 6-360:
Warning 8: this pattern-matching is not exhaustive.
Here is an example of a case that is not matched:
_::_::_::_
val crossing_v2 :
  unit -> (loc * loc * loc * loc) list option =
  <fun>
val crossing_many_possible_moves : unit -> unit =
val crossing_many_possible_moves' : unit -> unit =
  <fun>
exception KeepLooking
val process_solution_exn :
  ('a \rightarrow string) \rightarrow 'a \rightarrow 'a option = < fun>
val show list : ('a -> string) -> 'a list -> string =
  <fun>
val show loc : 'a -> string = <fun>
val show state : 'a * 'b * 'c * 'd \rightarrow string = <fun>
val show path:
  ('_weak1 * '_weak2 * '_weak3 * '_weak4) list ->
  string = <fun>
utop # crossing_v2 () ;;
-: (loc * loc * loc * loc) list option =
Some
 [(L, L, L, L); (R, L, R, L); (L, L, R, L);
 (R, R, R, L); (L, R, L, L); (R, R, L, R);
  (L, R, L, R); (R, R, R, R)]
-( 15:47:17 )-< command 3 >-----{ counter: 0 }-
utop # #use "wolf.ml";;
val is not elem : 'a list -> 'a -> bool = <fun>
type loc = L \mid R
type state = loc * loc * loc * loc
val ok_state : state -> bool = <fun>
val final : loc * loc * loc * loc -> bool = <fun>
val other_side : loc -> loc = <fun>
val moves : state -> state list = <fun>
File "wolf.ml", line 83, characters 6-270:
Warning 8: this pattern-matching is not exhaustive.
Here is an example of a case that is not matched:
_::_::_::_
val crossing v1 : unit -> state list option = <fun>
exception FoundPath of (loc * loc * loc * loc) list
File "wolf.ml", line 104, characters 6-360:
Warning 8: this pattern-matching is not exhaustive.
Here is an example of a case that is not matched:
_::_::_::_
```

```
val crossing v2:
  unit -> (loc * loc * loc * loc) list option =
  <fun>
val crossing many possible moves : unit -> unit =
  <fun>
val crossing many possible moves' : unit -> unit =
  <fun>
exception KeepLooking
val process_solution_exn :
  ('a -> string) -> 'a -> 'a option = <fun>
val show_list : ('a -> string) -> 'a list -> string =
  <fun>
val show loc : 'a -> string = <fun>
val show_state : 'a * 'b * 'c * 'd -> string = <fun>
val show_path : ('a * 'b * 'c * 'd) list -> string =
  <fun>
-( 15:47:23 )-< command 4 >--------{ counter: 0 }-
utop # crossing_v2 ();;
-: (loc * loc * loc * loc) list option =
Some
[(L, L, L, L); (R, L, R, L); (L, L, R, L);
 (R, R, R, L); (L, R, L, L); (R, R, L, R);
 (L, R, L, R); (R, R, R, R)]
-( 15:49:02 )-< command 5 >--------{ counter: 0 }-
utop # List.fold_left ;;
- : ('a -> 'b -> 'a) -> 'a -> 'b list -> 'a = <fun>
utop # #use "wolf.ml";;
File "wolf.ml", line 133, characters 21-22:
Error: Syntax error
-( 15:53:19 )-< command 7 >---------{ counter: 0 }-
utop # #use "wolf.ml";;
val is_not_elem : 'a list -> 'a -> bool = <fun>
type loc = L \mid R
type state = loc * loc * loc * loc
val ok state : state -> bool = <fun>
val final : loc * loc * loc * loc -> bool = <fun>
val other side : loc -> loc = <fun>
val moves : state -> state list = <fun>
File "wolf.ml", line 83, characters 6-270:
Warning 8: this pattern-matching is not exhaustive.
Here is an example of a case that is not matched:
_::_::_::_
val crossing_v1 : unit -> state list option = <fun>
exception FoundPath of (loc * loc * loc * loc) list
File "wolf.ml", line 104, characters 6-360:
Warning 8: this pattern-matching is not exhaustive.
Here is an example of a case that is not matched:
_::_::_::_
val crossing_v2 :
  unit -> (loc * loc * loc * loc) list option =
  <fun>
```

```
val crossing_many_possible_moves :
   unit -> (loc * loc * loc * loc) list option =
   <fun>
val crossing_many_possible_moves' : unit -> unit =
   <fun>
exception KeepLooking
val process solution exn:
    ('a -> string) -> 'a -> 'a option = <fun>
val show_list : ('a -> string) -> 'a list -> string =
   <fun>
val show_loc : 'a -> string = <fun>
val show state : 'a * 'b * 'c * 'd \rightarrow string = <fun>
val show_path : ('a * 'b * 'c * 'd) list -> string =
   <fun>
-( 15:57:30 )-< command 8 >-----{ counter: 0 }-
utop # crossing_many_possible_moves ();;
-: (loc * loc * loc * loc) list option =
Some
  [(L, L, L, L); (R, L, R, L); (L, L, R, L);
  (R, R, R, L); (L, R, L, L); (R, R, L, R);
utop # List.iter ;;
- : ('a -> unit) -> 'a list -> unit = <fun>
{ counter: 0-( 15:58:43 )-< command 10 >
                                            ______{ counter: -( 15:58:43 )-< command 10 >---
            { counter:-( 15:58:43 )-< command
10 > { counter-( 15:58:43 )-< com
mand 10 >-----
                                                                                   -----{ counte-( 15:58:43 )-<
command 10 > { count-( 15:56:43 )-< command 10 > { coun-( 15:58:43 )-< command 10 > { coun-( 15:58:43 )-< command 10 > { cou-( 15:58:43 )-< co
mand 10 > { co-( 15:58:43 )-< command
-{-( 15:58:43 )-< command 10 >---
  _____( 15:58:43 )—< command 10 >—
utop #
  Arg|Array|ArrayLabels|Assert_failure|Bigarray|Buffer|Bytes|BytesLabels|Callba|
```