

Last login: Wed Feb 7 13:24:54 on ttys003

carbon:\$ utop

Welcome to utop version 2.0.2 (using OCaml version 4.06.0)!

Type #utop\_help for help about using utop.

```
-( 15:36:24 )-< command 0 >-----{ counter: 0 }-
```

```
utop # #use "higher_order.ml";;
```

**File "higher\_order.ml", line 47, characters 11-13:**

**Error:** Syntax error

```
-( 15:36:24 )-< command 1 >-----{ counter: 0 }-
```

```
utop # #use "higher_order.ml";;
```

```
val implode : char list -> string = <fun>
```

```
val explode : string -> char list = <fun>
```

```
val map : ('a -> 'b) -> 'a list -> 'b list = <fun>
```

```
val inc_all_by : int -> int list -> int list = <fun>
```

```
val filter : ('a -> bool) -> 'a list -> 'a list = <fun>
```

```
val removeABCD : char list -> char list = <fun>
```

```
val foldr : ('a -> 'b -> 'b) -> 'a list -> 'b -> 'b = <fun>
```

```
val f : int -> 'a -> int = <fun>
```

**File "higher\_order.ml", line 48, characters 17-22:**

**Error:** Unbound value foldl

Hint: Did you mean foldr?

```
-( 15:41:21 )-< command 2 >-----{ counter: 0 }-
```

```
utop # #use "higher_order.ml";;
```

```
val implode : char list -> string = <fun>
```

```
val explode : string -> char list = <fun>
```

```
val map : ('a -> 'b) -> 'a list -> 'b list = <fun>
```

```
val inc_all_by : int -> int list -> int list = <fun>
```

```
val filter : ('a -> bool) -> 'a list -> 'a list = <fun>
```

```
val removeABCD : char list -> char list = <fun>
```

```
val foldr : ('a -> 'b -> 'b) -> 'a list -> 'b -> 'b = <fun>
```

```
val foldl : ('a -> 'b -> 'a) -> 'a -> 'b list -> 'a = <fun>
```

```
val f : int -> 'a -> int = <fun>
```

```
val length : 'a list -> int = <fun>
```

```
val foldl' : ('a -> 'b -> 'b) -> 'a list -> 'b -> 'b = <fun>
```

```
val length : 'a list -> int = <fun>
```

```
-( 15:41:32 )-< command 3 >-----{ counter: 0 }-
```

```
utop # length [1;2;3] ;;
```

```
- : int = 3
```

```
-( 15:41:39 )-< command 4 >-----{ counter: 0 }-
```

```
utop # foldr ;;
```

```
- : ('a -> 'b -> 'b) -> 'a list -> 'b -> 'b = <fun>
```

```

-( 15:41:43 )-< command 5 >-----{ counter: 0 }-
utop # #use "higher_order.ml";;
val implode : char list -> string = <fun>
val explode : string -> char list = <fun>
val map : ('a -> 'b) -> 'a list -> 'b list = <fun>
val inc_all_by : int -> int list -> int list = <fun>
val filter : ('a -> bool) -> 'a list -> 'a list = <fun>
val removeABCD : char list -> char list = <fun>
val foldr : ('a -> 'b -> 'b) -> 'a list -> 'b -> 'b = <fun>
val f : 'a -> int -> int = <fun>
val length : 'a list -> int = <fun>
val foldl : ('a -> 'b -> 'a) -> 'a -> 'b list -> 'a = <fun>
val f : 'a list -> 'a -> 'a list = <fun>
val rev : 'a list -> 'a list = <fun>
val foldl' : ('a -> 'b -> 'b) -> 'a list -> 'b -> 'b = <fun>
val length : 'a list -> int = <fun>
-( 15:48:07 )-< command 6 >-----{ counter: 0 }-
utop # rev [1;2;3] ;;
- : int list = [3; 2; 1]
-( 15:54:34 )-< command 7 >-----{ counter: 0 }-
utop # List.fold_right ;;
- : ('a -> 'b -> 'b) -> 'a list -> 'b -> 'b = <fun>
-( 15:54:38 )-< command 8 >-----{ counter: 0 }-
utop # #use "higher_order.ml";;
val implode : char list -> string = <fun>
val explode : string -> char list = <fun>
val map : ('a -> 'b) -> 'a list -> 'b list = <fun>
val inc_all_by : int -> int list -> int list = <fun>
val filter : ('a -> bool) -> 'a list -> 'a list = <fun>
val removeABCD : char list -> char list = <fun>
val foldr : ('a -> 'b -> 'b) -> 'a list -> 'b -> 'b = <fun>
val f : 'a -> int -> int = <fun>
val length : 'a list -> int = <fun>
val foldl : ('a -> 'b -> 'a) -> 'a -> 'b list -> 'a = <fun>
val foldl' : ('a -> 'b -> 'b) -> 'a list -> 'b -> 'b = <fun>
val length : 'a list -> int = <fun>
-( 16:04:20 )-< command 9 >-----{ counter: 0 }-
utop # #use "group_by_3.ml";;
val partition : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
-( 16:07:59 )-< command 10 >-----{ counter: 0 }-
utop # #use "group_by_3.ml";;
val even : int -> bool = <fun>
val ns : int list = [1; 2; 3; 4; 5; 6; 7; 8; 9; 10]
val partition : ('a -> bool) -> 'a list -> 'a list * 'a list =

```

```

<fun>
-( 16:08:07 )-< command 11 >-----{ counter: 0 }-
utop # partition even ns ;;
- : int list * int list = ([2; 4; 6; 8; 10], [1; 3; 5; 7; 9])
-( 16:08:30 )-< command 12 >-----{ counter: 0 }-
utop # List.fold_left ;;
- : ('a -> 'b -> 'a) -> 'a -> 'b list -> 'a = <fun>
-( 16:08:35 )-< command 13 >-----{ counter: 0 }-
utop # #use "group_by_3.ml";;
val even : int -> bool = <fun>
val ns : int list = [1; 2; 3; 4; 5; 6; 7; 8; 9; 10]
val partition_l : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
val partition_r : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
-( 16:10:08 )-< command 14 >-----{ counter: 0 }-
utop # partition_l even ns ;;
- : int list * int list = ([10; 8; 6; 4; 2], [9; 7; 5; 3; 1])
-( 16:10:22 )-< command 15 >-----{ counter: 0 }-
utop # #use "group_by_3.ml";;
val even : int -> bool = <fun>
val ns : int list = [1; 2; 3; 4; 5; 6; 7; 8; 9; 10]
val partition_l : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
val partition_r : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
-( 16:10:27 )-< command 16 >-----{ counter: 0 }-
utop # partition_l even ns ;;
- : int list * int list = ([2; 4; 6; 8; 10], [1; 3; 5; 7; 9])
-( 16:11:52 )-< command 17 >-----{ counter: 0 }-
utop # List.fold_left ;;
- : ('a -> 'b -> 'a) -> 'a -> 'b list -> 'a = <fun>
-( 16:11:53 )-< command 18 >-----{ counter: 0 }-
utop # #use "group_by_3.ml";;
val even : int -> bool = <fun>
val ns : int list = [1; 2; 3; 4; 5; 6; 7; 8; 9; 10]
val partition_l : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
val partition_r : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
val group_by_3 : 'a list -> 'a list list * 'a list * int = <fun>
-( 16:19:53 )-< command 19 >-----{ counter: 0 }-
utop # group_by_3 [1;2;3;4;5;6;7;8;9;10];;
- : int list list * int list * int
= ([7; 8; 9]; [4; 5; 6]; [1; 2; 3]), [10], 1)

```

```

-( 16:25:02 )-< command 20 >-----{ counter: 0 }-
utop # #use "group_by_3.ml";;
val even : int -> bool = <fun>
val ns : int list = [1; 2; 3; 4; 5; 6; 7; 8; 9; 10]
val partition_l : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
val partition_r : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
val group_by_3 : 'a list -> 'a list list = <fun>
-( 16:25:13 )-< command 21 >-----{ counter: 0 }-
utop # group_by_3 [1;2;3;4;5;6;7;8;9;10];;
- : int list list = [[1; 2; 3]; [4; 5; 6]; [7; 8; 9]; [10]]
-( 16:26:26 )-< command 22 >-----{ counter: 0 }-
utop # group_by_3 [1;2;3;4;5;6;7;8;9];;
- : int list list = [[1; 2; 3]; [4; 5; 6]; [7; 8; 9]]
-( 16:26:28 )-< command 23 >-----{ counter: 0 }-
utop # #use "group_by_3.ml";;
val even : int -> bool = <fun>
val ns : int list = [1; 2; 3; 4; 5; 6; 7; 8; 9; 10]
val partition_l : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
val partition_r : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
val group_by_3 : 'a list -> 'a list list * 'a list * int = <fun>
-( 16:49:57 )-< command 24 >-----{ counter: 0 }-
utop # group_by_3 [1;2;3;4;5;6;7;8;9];;
- : int list list * int list * int = ([[4; 5; 6]; [1; 2; 3]], [9; 8;
7], 3)
-( 16:50:43 )-< command 25 >-----{ counter: 0 }-
utop # #use "group_by_3.ml";;
val even : int -> bool = <fun>
val ns : int list = [1; 2; 3; 4; 5; 6; 7; 8; 9; 10]
val partition_l : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
val partition_r : ('a -> bool) -> 'a list -> 'a list * 'a list =
  <fun>
val group_by_3 : 'a list -> 'a list list = <fun>
-( 16:50:43 )-< command 26 >-----{ counter: 0 }-
utop # group_by_3 [1;2;3;4;5;6;7;8;9];;
- : int list list = [[1; 2; 3]; [4; 5; 6]; [7; 8; 9]]
-( 16:51:12 )-< command 27 >-----{ counter: 0 }-
utop #

```

Arg	Array	ArrayLabels	Assert_failure	Bigarray	Buffer	Bytes	BytesLa
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