

第4回課題

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3.3.13

解答のソースコード

```
fun power_set(nil) = [nil]
|   power_set(x::xs) = power_set(xs) @ ( List.map (fn ys => x::ys) ( power_set(xs)
) )
;
power_set([1,2,3]);
power_set([1,2]);
```

出力

```
- use "kadai3313";
[opening kadai3313]
[autoloading]
[library $SMLNJ-BASIS/basis.cm is stable]
[library $SMLNJ-BASIS/(basis.cm):basis-common.cm is stable]
[autoloading done]
val power_set = fn : 'a list -> 'a list list
val it = [[],[3],[2],[2,3],[1],[1,3],[1,2],[1,2,3]] : int list list
val it = [[],[2],[1],[1,2]] : int list list
val it = () : unit
```

3.4.3

解答のソースコード

出力

3.4.4

解答のソースコード

```

exception Error;
fun listmax([]) = raise Error
|   listmax([n:real]) = n
|   listmax(L) =
    let
      fun max(x, y) = if x>y then x
                      else y
    in
      max(hd(L),listmax(tl(L)))
    end;
listmax([1.1, 2.2, 3.3, 6.6, 5.5, 4.4]);
listmax([]);

```

出力

```

- use "kadai344";
[opening kadai344]
exception Error
val listmax = fn : real list -> real
val it = 6.6 : real

uncaught exception Error
  raised at: kadai344:2.25-2.30
             ../compiler/TopLevel/interact/interact.sml:56.32-56.36

```

5.2.1

解答のソースコード

```

exception Tarinai;
fun dai3([]) = raise Tarinai
|   dai3(L) = if List.length(L) > 3 then hd(tl(tl(L))) else raise Tarinai;

dai3([1,2,3,4,5]);
dai3([1]);
dai3([]);

```

出力

```

- use "kadai521";
[opening kadai521]
exception Tarinai
val dai3 = fn : 'a list -> 'a
val it = 3 : int

uncaught exception Tarinai

```

```
raised at: kadai521:3.67-3.74
../compiler/TopLevel/interact/interact.sml:56.32-56.36
```

5.2.2

解答のソースコード

```
exception ValueIsMinus;
fun kaijyo(0) = 1
|   kaijyo(x) = if x < 0 then raise ValueIsMinus else x*kaijyo(x-1);

kaijyo(5);
kaijyo(0);
kaijyo(~5);
```

出力

```
- use "kadai522";
[opening kadai522]
exception ValueIsMinus
val kaijyo = fn : int -> int
val it = 120 : int
val it = 1 : int

uncaught exception ValueIsMinus
  raised at: kadai522:3.37-3.49
    ../compiler/TopLevel/interact/interact.sml:56.32-56.36
```