Topic 04 - Functions
First Steps

Exercise 1:
Parenthesise the following numeric expressions:

1. 2ˆ3*4

2. 2 * 3 + 4 *5

3. 2 + 3 * 4ˆ5

Use GHCi to check your solutions.

Solution 1:

1. (2ˆ3) * 4
2. (2 * 3) + (4 *5)
3. 2 + (3 * (4 ˆ5))

Exercise 2:
The library function *last* selects the last element of a non-empty list; for example:

$last$ [1,2,3,4,5] = 5

Show that the function *last* could be defined in terms of the other library functions introduced so far.

Solution 2:

```
last xs = head (reverse xs)
```

Exercise 3:

The library function *init* removes the last element of a non-empty list; for example:

$$init \;\; [1,2,3,4,5] \;\; = \;\; [1,2,3,4]$$

Show that the function *init* could be defined in terms of the other library functions introduced so far.

Solution 3:

```
myinit xs = reverse(tail (reverse (xs)))
```