Programming Paradigms
Practical session, Week 1

Department of Informatics
University of Beira Interior

Chapter 2 slides

1. Try out, using GHCi, the examples shown on the lecture's slides (2-7 and 13-16) using GHCi.

2. Fix the syntax errors in the program below, and test your solution using GHCi.

```
N = a `div` length xs
    where
       a = 10
      xs = [1,2,3,4,5]
```

3. Show how the library function `last` that selects the last element of a list can be defined using the functions introduced in this chapter.

4. Can you think of another possible definition?

5. Similarly, show how the library function `init` that removes the last element from a list can be defined in two different ways.

Chapter 3 slides

1. What are the types of the following values?

```
['a','b','c']
('a','b','c')
[(False,'0'),(True,'1')]
([False,True],['0','1'])
[tail,init,reverse]
```

2. What are the types of the following functions?

```
second xs = head (tail xs)
swap (x,y) = (y,x)
pair x y = (x,y)
double x = x*2
palindrome xs = reverse xs == xs
twice f x = f (f x)
```

3. Check your answers using GHCi.

4. Define a function `product'` that produces the product of a list of numbers, and show using your definition that `product' [2,3,4] = 24`.

5. Define a function `reverse'` that reverses the elements of a list.