

---

## Haskell — Functions with lists

P25054\_en

---

In this problem you have to define some functions about lists in Haskell.

1. Define a function `myLength :: [Int] → Int` that, given a list of integers, returns its length.
2. Define a function `myMaximum :: [Int] → Int` that, given a non-empty list of integers, returns its maximal element.
3. Define a function `average :: [Int] → Float` that, given a non-empty list of integers, returns its average.
4. Define a function `buildPalindrome :: [Int] → [Int]` that, given a list, returns its palindrome that starts with the reserved list.
5. Define a function `remove :: [Int] → [Int] → [Int]` that given a list of integers  $x$  and a list of integers  $y$ , returns  $x$  after having removed all the occurrences of the elements in  $y$ .
6. Define a function `flatten :: [[Int]] → [Int]` that flattens a list of lists yielding a single list of elements.
7. Define a function `oddsNevens :: [Int] → ([Int],[Int])` that, given a list of integers, returns two lists: One with all the even numbers and one with all the odd numbers, each of them in the same relative order as in the original list.
8. Define a function `primeDivisors :: Int → [Int]` that returns the list of prime divisors of a non-zero natural.

### Scoring

Each function scores 12 points and the sample 4.

### Sample input 1

```
myMaximum [4,3,1,5,4,5,2]
average [1,2,3]
buildPalindrome [2,4,6]
flatten [[2,6],[8,1,4],[],[1]]
remove [1,4,5,3,4,5,1,2,7,4,2] [2,4]
myLength [1,3..10]
oddsNevens [1,4,5,3,4,5,1,2,7,4,2]
primeDivisors 255
```

### Sample output 1

```
5
2.0
[6,4,2,2,4,6]
[2,6,8,1,4,1]
[1,5,3,5,1,7]
5
([1,5,3,5,1,7],[4,4,2,4,2])
[3,5,17]
```

## **Problem information**

Author: Albert Rubio / Jordi Petit  
Translator: Jordi Petit

Generation: 2026-02-11T17:22:18.926Z

© *Jutge.org*, 2006–2026.  
<https://jutge.org>