1. Property based testing (QuickTest)

- The inner workings of QuickTest do not really matter. The important thing is coming up and writting properties to verify correctness.
- Remember to explicitly write the types of the predicates so that QuickCheck can provide appropriate examples.

2. Lazy evaluation

2.1. WHNF (= Weak Head Normal Form)

An expression is in WHNF if any of the following are true:

1. The expression is a **constructor**;
   - If the expression is a constructor that is being pattern matched on (e.g. a constructor inside a `case ... of`, then it will be reduced depending on the value of the constructor.
2. The expression is an **anonymous function**, i.e. a lambda expression;
   - If lambda is being applied to all of its arguments, then it is reduced depending on their value.
3. The expression is a **function applied to too few arguments**.

3. Monads

3.1. Do notation

- Remember that each do block maps to a monad, and some monads don't do what we intuitively think they do. Consider

```
a <- do f <- [1, 2]
        s <- ['a', 'b']
        return (f, s)

a == [(1, 'a'), (2, 'b')]
```

where the list monad comes into place (think of **list comprehensions** in this case).