# 习题课 1：Java 编程与 JUnit 单元测试

Given an array of citations (each citation is a non-negative integer) of a researcher, write a function to compute the researcher's h-index.

According to the definition of h-index on Wikipedia: "A scientist has index h if h of his/her N papers have at least h citations each, and the other N − h papers have no more than h citations each."

Example:
Input: citations = [3,0,6,1,5]
Output: 3

Explanation:
* [3,0,6,1,5] means the researcher has 5 papers in total and each of them had received 3, 0, 6, 1, 5 citations respectively.
* Since the researcher has 3 papers with at least 3 citations each and the remaining two with no more than 3 citations each, her h-index is 3.
* Note: If there are several possible values for h, the maximum one is taken as the h-index.

要求：

- 请提前考虑上述问题，试着提前编写程序
- 考虑代码的“可读性”（“可理解性”）
- 从命令行读入数据、从文本文件读入数据

- 考虑程序的“正确性”：要正确算出 h-index
- 考虑程序的“健壮性”：要考虑各种非法的输入情况，在这些情况下程序可以正常执行而不是强行退出
- 考虑程序的“可复用性”：对某些共性逻辑要单独抽取出来
- 试着编写对该程序的 JUnit 测试用例
- 考虑程序的“可扩展性”：在计算 h-index 的基础上，要求管理发表的论文（题目、年份、期刊名、引用数等）、对论文的引用数进行增加和减少、对作者发表的论文按引用数进行排序、等。

第 3 次课程将以此作为习题课示例题目