

Finding a Repeated Value in an Array

The objective of this assignment is to write the **R** function `repeating.r` that finds the repeated value in an array of numbers.

The name of the function comes from the *Pigeonhole Principle*:

If n objects are distributed over m places, and if $n > m$, then some place receives at least two objects.

Input: v - a vector of length $n + 1$ with the numbers $1, 2, \dots, n$ permuted, and one value repeated

Output: the repeated value

Good luck. Here are several examples.

```
> repeating(c(1,2,3,4,5,1))
[1] 1
> repeating(c(1,2,3,3,5,4))
[1] 3
> repeating(c(1,1,2,3,5,4))
[1] 1
> repeating(c(1,4,2,3,5,5))
[1] 5
> repeating(c(14,13,4,19,4,10,17,1,6,5,15,18,7,12,11,8,20,9,2,3,16))
[1] 4
```