Test Cases

Part A :

In this part of the problem you are supposed to find an element whose value is equal to its index. The code should print first such instance in the array.

Sample Input:

5

0 1 3 4 5

Sample Output:

3

In this case 5 is the size of the array.

0 1 3 4 5 are the elements of the array where the element 0 is at index 1 and not at index 0. So we effectively do not use the index 0 of the array and start filling the array from index 1 only.

Output is 3 because at index 3 the value of the element is 3 only. Though at index 5, the value of the element is also 5 but the code should print first such occurrence.

One more test case is given below

Input :

7

0 1 2 4 5 6 7

Output :

4

Part B:

In this part of the problem, we are not supposed to look for A[M] = M

Also, you are not supposed to use the size of the array to apply binary search.
Though you will input the array yourself, and you will be knowing its size , but you can not use the size for applying binary search for Part B of the problem.
So, the first input will be the size of the array. Second input will be the key you are looking to search for and at last you input the elements of the array.

Input :

10 - This corresponds to the size of the array.

6 - This corresponds to the key you are searching for

1 2 3 5 6 7 8 9 10 11 - These are the elements of the array

Output :

5 - Output should be the index at which the key is present. In this case, key 6 is present at index 5 of 1-INDEXED array. So the output is 5.

Input:

20

20

1 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

Output :

19

Yes, the program would know the length of the array if the array elements are hard coded. However, this problem attempts to simulate a big data scenario -- a scenario where the number of elements in the array is so big that it won't fit in memory all at once. Therefore, since the Array won't fit in memory, it would be difficult for us to figure out exactly the length of the array.
For some real-world motivation to the big data and array is too big to fit in memory scenario, please read about the "**Streaming**" feature that has been incorporated into Java8
For example, imagine that you work at google and you are probably collecting billion of data points about your users and customers per hour and since we haven't taught students about large datasets and streaming, we can't really use those concepts in

that it won't fit in memory and, therefore, there is no way to find the length of the array.

Report an error

PREVIOUS
Problem Statement

NEXT
Evaluation Rubric