

# KrishnamurthyNumber.java

```

1  package com.example;
2
3  import java.io.*;
4
5  public class KrishnamurthyNumber {
6
7      // returns True if the number is a Krishnamurthy number and False if it is not.
8
9      public static boolean isKMurthy(int n) {
10         // initialising the variable s that will store the sum of the factorials of the digits to 0
11         int s = 0;
12         // storing the number n in a temporary variable tmp
13         int tmp = n;
14
15         // Krishnamurthy numbers are positive
16         if (n <= 0) {
17             return false;
18         } // checking if the number is a Krishnamurthy number
19         else {
20             while (n != 0) {
21                 // initialising the variable fact that will store the factorials of the digits
22                 int fact = 1;
23                 // computing factorial of each digit
24                 for (int i = 1; i <= n % 10; i++) {
25                     fact = fact * i;
26                 }
27                 // computing the sum of the factorials
28                 s = s + fact;
29                 // discarding the digit for which factorial has been calculated
30                 n = n / 10;
31             }
32
33             // evaluating if sum of the factorials of the digits equals the number itself
34             return tmp == s;
35         }
36     }
37
38     public static void main(String[] args) throws IOException {
39         BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
40         System.out.println("Enter a number to check if it is a Krishnamurthy number: ");
41         int n = Integer.parseInt(br.readLine());
42         if (isKMurthy(n)) {
43             System.out.println(n + " is a Krishnamurthy number.");
44         } else {
45             System.out.println(n + " is NOT a Krishnamurthy number.");
46         }
47     }
48 }

```

## Mutations

```

16  1. changed conditional boundary → KILLED
    2. negated conditional → KILLED
17  1. replaced boolean return with true for com/example/KrishnamurthyNumber::isKMurthy → KILLED
20  1. negated conditional → KILLED
    1. changed conditional boundary → KILLED
24  1. Changed increment from 1 to -1 → TIMED_OUT
    3. Replaced integer modulus with multiplication → KILLED
    4. negated conditional → KILLED
25  1. Replaced integer multiplication with division → KILLED
28  1. Replaced integer addition with subtraction → KILLED
30  1. Replaced integer division with multiplication → KILLED
34  1. replaced boolean return with true for com/example/KrishnamurthyNumber::isKMurthy → KILLED
    2. negated conditional → KILLED
40  1. removed call to java/io/PrintStream::println → KILLED
42  1. negated conditional → KILLED
43  1. removed call to java/io/PrintStream::println → KILLED
45  1. removed call to java/io/PrintStream::println → KILLED

```

## Active mutators

- BOOLEAN FALSE RETURN
- BOOLEAN TRUE RETURN
- CONDITIONALS\_BOUNDARY\_MUTATOR
- EMPTY\_RETURN\_VALUES
- INCREMENTS\_MUTATOR
- INVERT\_NEGS\_MUTATOR
- MATH\_MUTATOR
- NEGATE\_CONDITIONALS\_MUTATOR
- NULL\_RETURN\_VALUES
- PRIMITIVE\_RETURN\_VALS\_MUTATOR
- VOID\_METHOD\_CALL\_MUTATOR

## Tests examined

- com.example.KrishnamurthyNumberTest.testNegativeNumberIsNotKrishnamurthyNumber(com.example.KrishnamurthyNumberTest) (0 ms)
- com.example.KrishnamurthyNumberTest.testTwoDigitNonKrishnamurthyNumber(com.example.KrishnamurthyNumberTest) (1 ms)
- com.example.KrishnamurthyNumberTest.testZeroIsNotKrishnamurthyNumber(com.example.KrishnamurthyNumberTest) (1 ms)
- com.example.KrishnamurthyNumberTest.testThreeDigitKrishnamurthyNumber(com.example.KrishnamurthyNumberTest) (1 ms)
- com.example.KrishnamurthyNumberTest.testPositiveKrishnamurthyNumber(com.example.KrishnamurthyNumberTest) (0 ms)
- com.example.KrishnamurthyNumberTest.testLargeKrishnamurthyNumber(com.example.KrishnamurthyNumberTest) (1 ms)
- com.example.KrishnamurthyNumberTest.testMainWithNonKrishnamurthyNumber(com.example.KrishnamurthyNumberTest) (1 ms)
- com.example.KrishnamurthyNumberTest.testSingleDigitKrishnamurthyNumber(com.example.KrishnamurthyNumberTest) (1 ms)
- com.example.KrishnamurthyNumberTest.testMainWithKrishnamurthyNumber(com.example.KrishnamurthyNumberTest) (0 ms)
- com.example.KrishnamurthyNumberTest.testNonKrishnamurthyNumber(com.example.KrishnamurthyNumberTest) (0 ms)

Report generated by [PIT](#) 1.5.0