SERIES

1. Fibonacci sequence

The Fibonacci sequence is a sequence in which each number is the sum of the two preceding ones.

OUTPUT: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181, 6765, 10946, 17711, 28657, 46368, 75025, 121393, 196418, 317811, 514229, 832040, 1346269, 2178309, 3524578, 5702887, 9227465, 14930352, 24157817, 39088169, 63245986, 102334155, 165580141, 267914296, 433494437, 701408733, 1134903170, 1836311903, 2971215073, 4807526976, 7778742049.

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2. Armstrong number

Armstrong number is a number that is equal to the sum of cubes of its digits.

INPUT: 153 **OUTPUT:** True
INPUT: 2 **OUTPUT:** False

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3. Palindrome number

A number that remains the same when its digits are reversed.

INPUT: 1441 **OUTPUT:** True
INPUT: 223 **OUTPUT:** False

4. Harshad number

A harshad number in a given number base is an integer that is divisible by the sum of its digits when written in that base.

$$\frac{21}{2+1} = 7$$

INPUT: 156 **OUTPUT:** True
INPUT: 22 **OUTPUT:** False

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5. Krishnamurthy number

A Krishnamurthy number is a number whose sum of the factorial of digits is equal to the number itself.

INPUT: 145 **OUTPUT:** True
INPUT: 133 **OUTPUT:** False

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6. Evil number

An evil number is a non-negative number that has an even number of 1s in its binary expansion.

.**INPUT:** 10 **OUTPUT:** True
INPUT: 2 **OUTPUT:** False

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7. Fascinating number

When a number(3 digits or more) is multiplied by 2 and 3, and when both these products are concatenated with the original number, then it results in all digits from 1 to 9 present exactly once.

INPUT: 192 **OUTPUT:** True
INPUT: 133 **OUTPUT:** False