Day 19: Interfaces

Objective

Today, we're learning about Interfaces. Check out the Tutorial tab for learning materials and an instructional video!

Task

The *AdvancedArithmetic* interface and the method declaration for the abstract *int divisorSum(int n)* method are provided for you in the editor below. Write the *Calculator* class, which implements the *AdvancedArithmetic* interface. The implementation for the *divisorSum* method must be *public* and take an integer parameter, n, and return the sum of all its divisors.

Note: Because we are writing multiple classes in the same file, do not use an access modifier (e.g.: public) in your *class declaration* (or your code will not compile); however, you must use the *public* access modifier before your *method declaration* for it to be accessible by the other classes in the file.

Input Format

A single line containing an integer, n.

Constraints

- $1 \leq n \leq 1000$

Output Format

You are not responsible for printing anything to stdout. The locked *Solution* class in the editor below will call your code and print the necessary output.

Sample Input

```
6
```

Sample Output

```
I implemented: AdvancedArithmetic
12
```

Explanation

The integer 6 is evenly divisible by 1, 2, 3, and 6. Our *divisorSum* method should return the sum of these numbers, which is $1+2+3+6=12$. The Solution class then prints `I implemented: AdvancedArithmetic` on the first line, followed by the sum returned by *divisorSum* (which is 12) on the second line.