



# Multipliers

## Software Engineer Exercise

### Introduction

We'll divide this exercise into two parts. The first one is a proof of concept of our awesome functionality. In the second one, we will expose this to our clients. They are expecting this for a long time.

You need to consider the following points:

- You DON'T need to write the code to comply with the order of those parts: You can separate and mix the requirements.
- You have a limited amount of time, and maybe, you can't deliver everything, but your delivery MUST work and be reliable.

### Part 1

Write a program that prints all the numbers from 1 to 100. However, for multiples of 3, instead of the number, print "Type 1". For multiples of 5 print "Type 2". For numbers which are multiples of both 3 and 5, print "Type 3".

But here's the catch: you can use only one ``if``. No multiple branches, ternary operators, or ``else``.

### Requirements

- 1 if
- You can't use ``else``, ``else if``, or ternary
- Unit tests
- Feel free to apply your SOLID knowledge



## Part 2

Now that our POC is complete, We could expose our functionality to our clients through a REST API. To do that, we need to expose an endpoint to retrieve the value of a specific number or its type and create a collection of numbers.

### Requirements

- Make an endpoint to save a number into a collection.
- Make an endpoint to retrieve the value of a specific number.
- Make an endpoint to retrieve all the numbers in the collection.
- The value is either a number or a type as in our POC.
- You should save the collections in memory.
- Feel free to apply your REST design knowledge