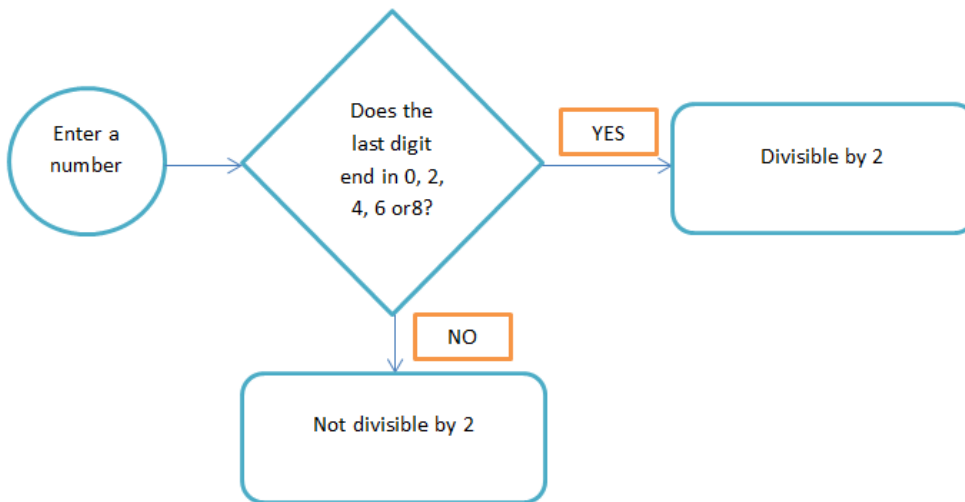# Fix these divisibility rules

We can use an algorithm to check if a number is divisible by another number.

Here is an algorithm, a series of steps with a decision to work out if a number is divisible by 2.

Here are three algorithms. Two are correct. Can you spot the mistake and fix the algorithm so it has the correct divisibility rule?

To find the sum of the digits, add each digit in the number.
Example 108 = 1 + 0 + 8; the sum of the digits is 9.
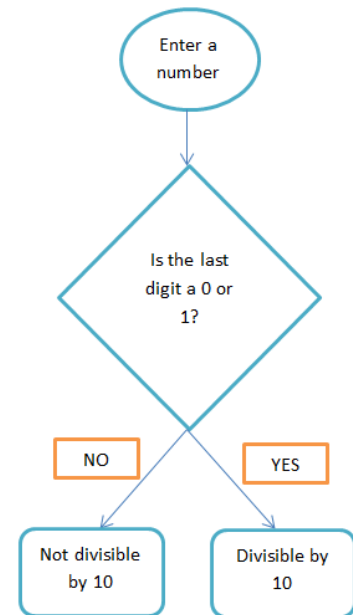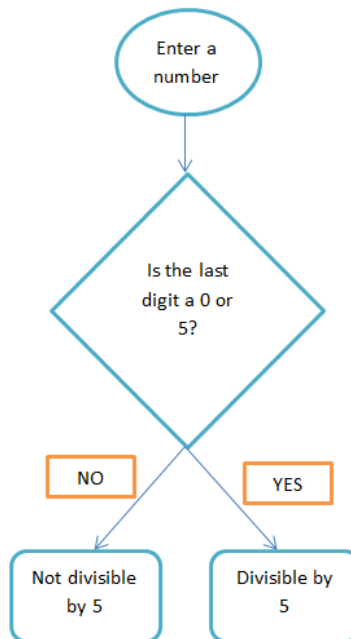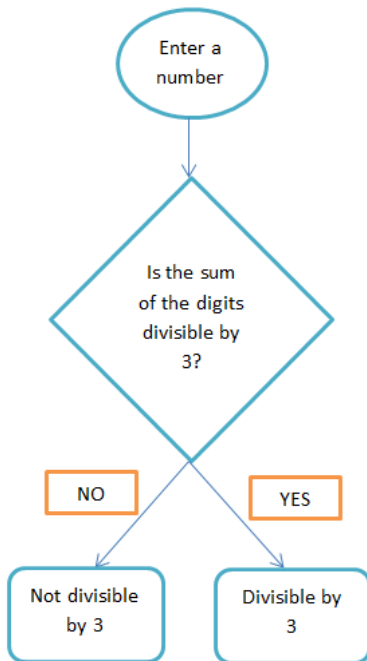


Which algorithm was incorrect?

Have a go at creating an algorithm for checking if a number is divisible by 9.

The table has been started, complete the table.
Do you notice a pattern for the sum of the digits of the product?

| Factor | Factor | Product |
|--------|--------|---------|
| 1 | 9 | 9 |
| 2 | 9 | 18 |
| 3 | 9 | 27 |
| 4 | 9 | 36 |
| 5 | 9 | 45 |
| 6 | 9 | |
| 7 | 9 | |
| 8 | 9 | |
| 9 | 9 | |
| 10 | 9 | |
| 11 | 9 | |
| 12 | 9 | |

Write your algorithm and test it.