Intermediate Exercise – ISBN

Description

ISBN's (International Standard Book Numbers) are identifiers for books.

The ISBN is a thirteen-digit code.

Lets take 978-0-306-40615-7

The last digit is a check number calculated as follows:
- The first 12 digits are taken
- Starting at index 1, if the index is odd - add it, and if the index is even – multiply the digit by three then add it.
- From the sum find the remainder after dividing by 10.
- 10 minus the remainder give us the check digit
- In other words the following algebra would give us the check digit:

$(10 - ((x_1 + 3x_2 + x_3 + 3x_4 + x_5 + 3x_6 + x_7 + 3x_8 + x_9 + 3x_{10} + x_{11} + 3x_{12}) \% 10))$

Create a script which can check whether an entered number is a valid ISBN.

Create a script which will generate an ISBN

Example

For ISBN: 978-0-306-40615-? The following check would happen:
- $9 + 3*7 + 8 + 3*0 + 3 + 3*0 + 6 + 3*4 + 0 + 3*6 + 1 + 3*5 = 93$
- $93 \% 10 = 3$
- $10 – 3 = 7$

The checked number ends in 7,

```
ISBN (9780306406157) => True
```