ISBN Number

Every book has a unique identifier called its ISBN (there are several versions, the latest being called ISBN-13). Typical ISBNs are:

978-0-470-12870-1

978 0 387 98259 5

An ISBN consists of 13 digits organised as 5 non-empty groups separated from one another by a space or a hyphen. The first group is either 978 or 979. The final group is a single digit called the *checksum*. Denoting the sequence of 13 digits by

$x_0x_1x_2 \ldots x_{12}$ the checksum (x_{12}) equals

$$(10-(x_0+3x_1+x_2+3x_3+ \ldots + 3x_{11}) \bmod 10) \bmod 10$$

where *mod* is the arithmetic modulo operator.

Write a program that reads a string from the standard input and display a 1 or 0 as to whether the string is a valid ISBN. 1 being the ISBN number is valid and 0 being that it is not.

The input can be a single ISBN number or a set, s of ISBN numbers.

>cat q1_1.in

978-0-306-40615-7

978-1-56619-909-4

978-0-470-12870-1

978 0 387 98259 5

978-0-356-42615-0

978-1-86197-876-9

978 1 86197 876 9

978-1 58488-540-5

978-1-56619-909-4

979-1-56619-909-3

>cat q1_1.out

1

1

1

1

1

1
1
1
1
1
>java q1 < q1_1.in
1
1
1
1
1
1
1
1
1
1

>type q1_2.in
978-0-306-40615-6
978-1-56619-909-3
9780-470-12870-1
978 0 387 98259 4
979-0-356-42615-0
977-1-86197-876-9
976 1 86197 876 9
978-1 58488-5405
978-156619-909-4
9791-56619-909-3
>type q1_2.out
0
0
0
0
0
0
0
0

0
0
>java q1 < q1_2.in
0
0
0
0
0
0
0
0
0
0

>cat q1_3.in
978-0-306-40615-7
978 0 306 40615 7
978-0-306 40615 7
>type q1_3.out
1
1
1
>java q1 < q1_3.in
1
1
1
