Problem 22: Bowling Scores[1]

Source filename:	`bowling.(cpp	java)`
Input filename:	`bowling.in`
Output filename:	`bowling.out`

Each line of input gives the results of a standard ten-frame game of ten-pin bowling. A valid frame description is one of the following:

X   STRIKE: All ten pins are knocked down by one ball. Score 10 plus the number of pins knocked down by the next two balls.

b_1/   SPARE: b_1 is an integer digit (**0** to **9**) indicating the number of pins knocked down by the first ball. The second ball knocked down the remaining ($10 - b_1$) pins. Score 10 plus the number of pins knocked down by the next ball.

$b_1 b_2$ OPEN: b_1 and b_2 are integer digits (**0** to **9**) indicating the number of pins knocked down by the first and second balls respectively, where $b_1 + b_2 < 10$. Score $b_1 + b_2$.

Normally, a frame has either one ball (for a STRIKE) or two balls (for a SPARE or OPEN frame). However, if the first ball of the tenth frame is a STRIKE, the bowler gets two extra balls, and if the first two balls of the tenth frame produce a SPARE, the bowler gets one extra ball. The number of pins knocked down by these extra balls is added to 10 to determine the score earned in the tenth frame.

Frame descriptions appear in sequence on an input line without spaces. An asterisk in the first column of an input line indicates the end of input. For each input line, write one output line with the final score of the game or write **INVALID** if the input line is not a valid game description. All output to the screen will be ignored.

Example Input File (`bowling.in`)

```
8118712244157/81539/3
XX353/41X2/XX9/X
8/4118XXX1/X3/4
6/XX43XXXXX9/
251/XX71/X711/62
X4/6/73234/XXXXXX
4/11631/XX4/XXXXX
X43XXX218/X5/XX2
*
```

Example Output File (`bowling.out`)

```
92
177
INVALID
237
INVALID
INVALID
196
174
```

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[1] This problem first appeared at a contest sponsored by the MidSouth College Computing Conference, April 2, 2005.