Bowling Score

Ten-pin bowling is a sport in which a "bowler" rolls a bowling ball down a synthetic (polyurethane) lane and towards ten pins positioned at the end of the lane. The objective is to score points by knocking down as many pins as possible.

Scoring

A game consists of 10 frames. Frames 1 through 9 are composed of up to two rolls. Frame 10 is composed of up to 3 rolls.

In general, one point is scored for each pin that is knocked over. So if a player bowls over three pins with the first shot, then six with the second, the player would receive a total of nine points for that frame. When a player fails to knock down all ten pins after their second ball it is known as an open frame.

Bonuses are awarded when all ten pins are knocked down in a single frame.

Strike: When all ten pins are knocked down with the first ball (called a strike and typically rendered as an "X" on a scoresheet), a player is awarded ten points, plus a bonus of whatever is scored with the **next two balls**. Thus, the points scored for the two balls after the strike are counted twice.

Example:
- Frame 1, ball 1: 10 pins (Strike)
- Frame 2, ball 1: 10 pins (Strike)
- Frame 3, ball 1: 9 pins
- Frame 3, ball 2: 0 pins (recorded as a dash '-' or '0' on the scoresheet)

The total score from these throws is:
- Frame one: $10 + (10 + 9) = 29$
- Frame two: $10 + (9 + 0) = 19$
- Frame three: $9 + 0 = 9$

TOTAL = 57

The most points that can be scored in a single frame is 30 points (10 for the original strike, plus strikes in the two subsequent frames).
A player who bowls a strike in the tenth (final) frame is awarded two extra balls so as to allow the awarding of bonus points. If both these balls also result in strikes, a total of 30 points $(10 + 10 + 10)$ is awarded for the frame.

Spare: A "spare" is awarded when no pins are left standing after the second ball of a frame; i.e., a player uses both balls of a frame to clear all ten pins. A player achieving a spare is awarded ten points, plus a bonus of whatever is scored with the next ball (only the first ball is counted). It is typically rendered as a slash on scoresheets in place of the second pin count for a frame.

Example:
- Frame 1, ball 1: 7 pins
- Frame 1, ball 2: 3 pins (spare)
- Frame 2, ball 1: 4 pins
- Frame 2, ball 2: 2 pins

The total score from these throws is:
- Frame one: $7 + 3 + 4$ (bonus) $= 14$
- Frame two: $4 + 2 = 6$

TOTAL = 20

A player who bowls a spare in the tenth (final) frame is awarded one extra ball to allow for the bonus points.

The explanation above was adapted from Wikipedia. For more examples, refer to the Wikipedia page.

Input Specification

For our purpose, we will assume that a bowling game is represented by a string of characters. Each character corresponds to one ball throw and represents the number of bowling pins toppled by that ball. The character 'X' is used to represent a ball throw where 10 pins are toppled. Unlike an 'X' in a bowling scoresheet, it does not necessarily represent a strike.

Examples:

- "XXXXXXXXXXXX" represents a perfect game with 12 consecutive strikes. This should give a score of 300.

- "X7390X088206XXX81" represents a game with the following pinfalls:
  - Frame 1, Ball 1: Strike
  - Frame 2, Ball 1: 7
  - Frame 2, Ball 2: Spare
  - Frame 3, Ball 1: 9
  - Frame 3, Ball 2: 0
  - Frame 4, Ball 1: Strike
  - Frame 5, Ball 1: 0
  - Frame 5, Ball 2: 8
  - and so on...
  The score for this game is 167.

- For a game where every ball enters the gutter, the game is represented by "00000000000000000000" (20 consecutive 0's) with a score of 0.