# Bowling Game Coding Exercise

## Problem Description

Create a program, which, given an integer array of a valid sequence of throws for one game of American Ten-Pin Bowling, produces the total score for the game. Your code will become the core of a bowling score management system, so make sure it’s production-quality.

Your input should be a string like the examples below.

## Stuff That’s Out of Scope

Here are some things that the program ***does not need to do*** (today):

* check for valid throws (like scores that add to 11)
* check for the correct number of throws and frames
* provide any intermediate scores – it only has to provide the final score

## The Rules

To briefly summarize the scoring for this form of bowling:

* One *game* of bowling is made up of ten *frames*.
* In each frame, the bowler has two *throws* to knock down all the pins.
* Possible results for a frame:
  + *Strike* (‘X’): the bowler knocks down *all 10* pins on the first throw.  
    The frame is over early. The score for the frame is 10 plus the total pins knocked down on the *next two throws*.
  + *Spare* (‘/’): the bowler knocks down *all 10* pins using two throws.  
    The score for the frame is 10 plus the number of pins knocked down on the *next throw*.
  + *Open frame*: the bowler knocks down *less than 10* pins with his two throws. The score for the frame is the total number of pins knocked down.
* The game score is the total of all frame scores.
* Special rules for the 10th frame:
  + A strike in the tenth frame gives the bowler *two bonus throws*, to fill out the scoring formula for the last frame.
  + A spare in the tenth frame gives the bowler *one bonus throw*, to fill out the scoring formula for the last frame.
  + These throws count as part of the 10th frame.
  + The process does not repeat – for example, knocking down all 10 pins on a bonus throw does not provide any additional bonus throws.

## Examples

|  |  |  |
| --- | --- | --- |
| Input String | Calculated As | Score |
| X-X-X-X-X-X-X-X-X-XXX | (10+10+10) + (10+10+10) + (10+10+10) + (10+10+10) + (10+10+10) + (10+10+10) + (10+10+10) + (10+10+10) + (10+10+10) + (10+10+10) | 300 |
| 45-54-36-27-09-63-81-18-90-72 | 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 | 90 |
| 5/-5/-5/-5/-5/-5/-5/-5/-5/-5/-5 | (10+5) + (10+5) + (10+5) + (10+5) + (10+5) + (10+5) + (10+5) + (10+5) + (10+5) + (10+5) | 150 |

**As a reminder, you may write the code in any language you prefer.**

**Preferred Method to return your completed code via email with a Github link**

**If you do not have Github, you may also return the code manually via email**