

Bowling Scoring Rules

names		1	2	3	4	5	6	7	8	9	10	total
1		<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
2		<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
3		<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
4		<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
5		<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	

Figure 1: Bowling Score Card

Scoring in bowling is calculated on a rolling basis and is based on the outcome of each frame. In bowling, there are 10 frames. A frame is made up of two bowls, so the bowler gets to throw the ball down the lane at the pins twice per frame.

There are 10 pins set up at the back of the lane. If you knock all 10 pins on the first bowl, it is called a **strike**. If you eventually knock all 10 pins on you second bowl, it is called a **spare**. Finally, if you fail to knock down all pins it's called an **open frame**.

When you bowl, you will see the following symbols appear on the screen that indicate the total running score on the current frame.

X – STRIKE

/ - SPARE

- - No pins knocked down

4 5 – 1st roll (4 pins down), 2nd roll (5 pins down) = total 9 pins knocked down

Perfect Scores

The minimum score for a single bowling game is 0 and the maximum score is a 300. For each frame, a person gets two attempts to knock over all of the pins. A perfect score would be a strike for every frame.

Open Frames

An open frame is when the bowler fails to knock down all 10 pins with both bowls. An open frame is most common for amateur players and is scored by adding up the sum of the number of pins that were knocked over on both bowls.

For example, if you knock two pins over on the first bowl, and six pins over on the second attempt, then the open frame score would be 8 points.

Scoring for a match where just open frames are scored is simple but scoring gets a little complicated when there are spares and strikes involved.

Spares

A spare, indicated by a slash (/) on a scoreboard, happens when you knock down all 10 of the pins on your second attempt for the frame. When a spare is earned, it is used to calculate the score **on the next frame**.

Strikes

A strike is also worth 10 points, but instead of taking the score of the first roll of the next frame, the total score of the **next two rolls** is taken.

The 10th Frame

The bowler gets an additional roll of a spare is earned and two additional rolls if a strike is earned on the 10th frame. The total number of pins knocked down are added to the running total.

Scoring Example

FRAME	1	2	3	4	5	6	7	8	9	10
Pins	5 4	4 /	7 -	X -	X -	X -	5 3	6 /	4 /	X X X
Score	9	26	33	63	88	106	114	128	148	178

Figure 2: Bowling Score Sheet

Your Task:

Create an HTML form to key in the scores for not more than 5 bowlers “per lane”. You need to key in the name and the number of pins for each frame something like shown in **Figure 1**. Allow a submit button to enable the movement to another page.

In another page, show the result of the game in an HTML table something like in **Figure 2** for each bowler.

As this assignment can be a little bit daunting, I am giving you **two weeks** to come up with the outcome.

Keep the total score and the number of games for each player in a table. With the information, come up with statistics either for each player or for all players.

Display the average score for each player.

Display the scores for every player ascendingly and descending – individual player or for all.

Display the number of strikes, the number of open spares and the number of open frames for each player.

A player’s record can be deleted from the database.

A player’s detail can be updated, but not the scores.

Hint: You may need to use array, either one- or two-dimensional. Think it through very carefully.

Note: This assignment may teach you a lot in logical thinking and perseverance in coming up with an outcome within a stipulated time. The Score Card should be dynamic. When you key in for 1 bowler, only one row of the score card appears. If you key in for 3 bowlers, 3 rows of the score card appears.

Due date: 1 July 2022 by 11.59PM.

This is an INDIVIDUAL ATTEMPT.

Deliverables:

1. An online website.
2. Coding of the HTML/PHP/Javascript/CSS as well as the URL of the outcome placed in one **PDF** file.