Java Development Homework 1

Due before March 22 9:00am

Problem Description

Jie went to the bowling alley to play bowling, ten frames in one game.

The rules of bowling are as follows:
(1) There are ten bowling pins in each roll.
(2) If all the pins are not knocked down in the first ball of a frame, a second ball can be played.
(3) If all the pins are knocked down in the first ball of a frame, only one ball is played for that frame.
(4) If all the pins are knocked down in the tenth frame, three balls can be played.

The scoring rules for each frame of bowling are as follows:
(1) If fewer than ten pins are knocked down in two balls, one point is awarded for each pin. For example, if seven pins are knocked down in the first ball and two pins are knocked down in the second ball, the score for that frame is 7 2, 7 + 2 = 9.

(2) If less than ten pins are knocked down in the first ball, but all remaining pins are knocked down in the second ball (a spare), one point is awarded for each pin and the number of pins knocked down in the next ball is added. For example, if seven and three pins are knocked down in the first frame, and five and zero pins are knocked down in the next frame, the score for the first frame is 7 + 3 + 5 = 15.

(3) If all ten pins are knocked down in the first ball (a strike), one point is awarded for each pin, and the number of pins knocked down in the next two balls is added. For example, if all ten pins are knocked down in the first ball of the first frame, and five and four pins are knocked down in the next frame, the score for the first frame is 10 + 5 + 4 = 19.

Calculate the total score.

Problem Description (中文)

小杰到保齡球館打保齡球, 一次十局。

保齡球規則為:

(1) 每一局有十瓶保齡球瓶。

(2) 若某局第一球沒有全部打倒十瓶保齡球瓶, 可再打第二球。

(3) 若某局第一球打倒全部十瓶保齡球瓶, 此局只打一球。

(4) 若第十局打倒全部十瓶保齡球瓶, 此局可以打三球。

保齡球每一局計分規則為:

(1) 兩球打倒保齡球瓶少於十瓶, 每一瓶得一分。

例如兩球打倒 7 瓶、2瓶, 計為 7 2。

此局分數計為 7+2 = 9。

(2) 第一球打倒保齡球瓶少於十瓶，第二球將剩餘球瓶均打倒 (spare)，

每一瓶得一分，並加計後面一球打倒瓶數。

例如本局打倒 7 瓶、3 瓶，下一局打倒 5 瓶、0 瓶。

本局分數為 7 + 3 + 5 = 15。

(3) 第一球打倒保齡球瓶等於十瓶，不用打第二球 (strike)。

每一瓶得一分，並加計後面兩球打倒的瓶數。

例如本局第一球打倒 10 瓶，下一局打倒 5、4 瓶。

此局分數為 10 + 5 + 4 = 19。

試算出總得分

Sample Input and Output

Keyboard Input	4 4
	3 7
	8 2
	3 7
	6 0
	10
	7 0
	10
	10
	2 3
Output	127

Keyboard Input	10
	10
	5 5
	6 4
	10
	5 4
	10
	3 7
	10
	9 1 10
Output	189

Submission

Please archive your source code to STUDENT_ID.zip (download the example zip file from Moodle) and **upload to Moodle** before deadline.

Your zip file should follow the following format.

STUDENT_ID.zip

|- src

|- META-INF

| |- MANIFEST.MF

All the source files (*.java) are put in the src directory.

The entry point (i.e. main class) of the program is specified in the MANIFEST.MF file.

No late submission is accepted.