

TDD Puzzles

Code Dojo

Mommifier

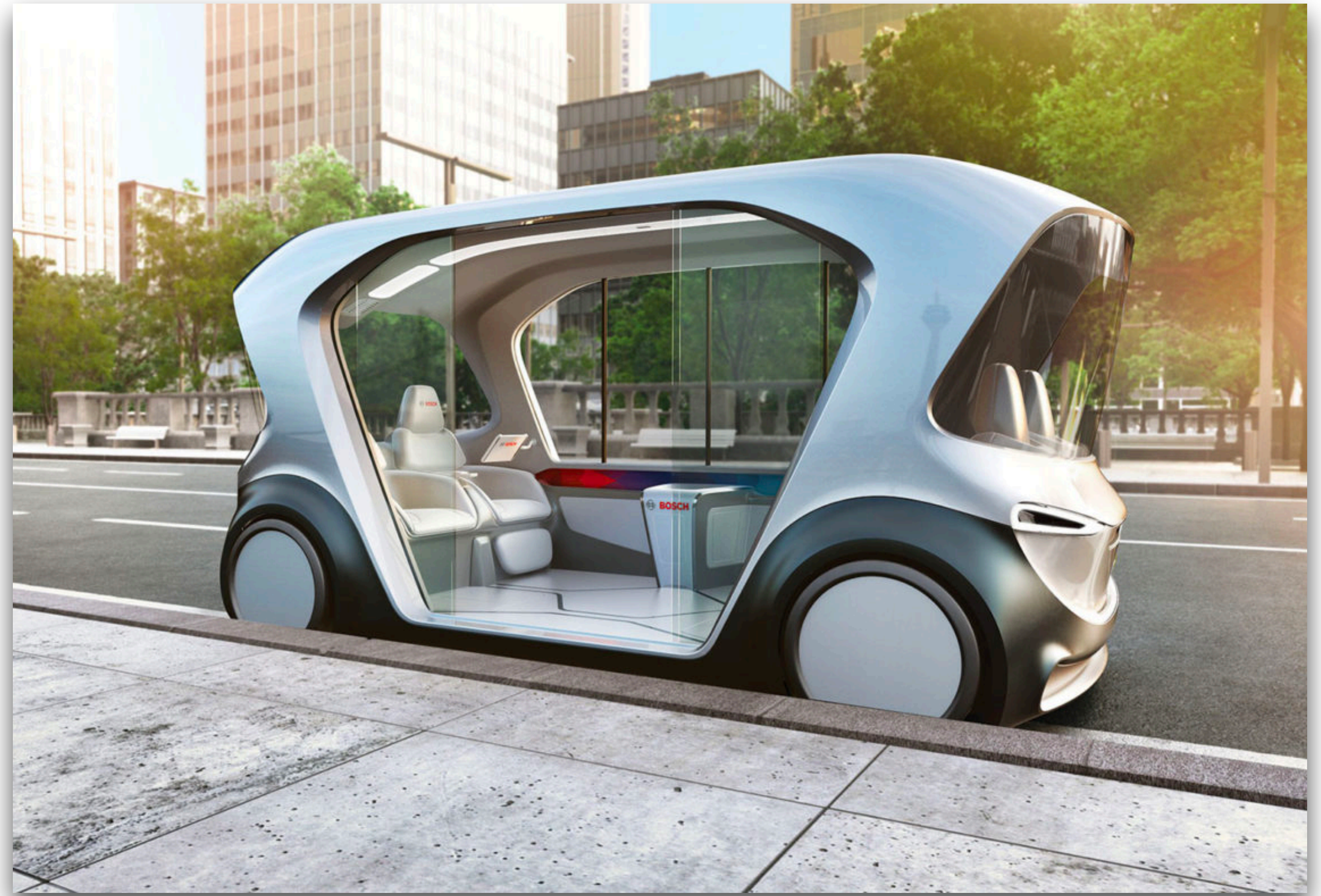
You are given strings of different lengths. If the number of vowels (aeiou) are more than 30% of the string length then insert 'mommy' for each continuous set of vowels.

- ✓ hard → hard
- ✓ his → hmommys
- ✓ hear → hmommyr
- ✗ hear → hmommymommyr
- ✗ hard → hmommyrd

Taxi Meter

You work for a company which provides taxi services with self-driving cars. The pricing team decides to charge each ride based on how far it travels and how long it waits. The minimal charge is \$2 which covers the first 2 km, then add \$1 per km. Additionally, add extra 20% per km after 8 km. Free wait for the first minute, then add \$1.5 per minute. The total price is rounded to the nearest whole number.

You are asked to write a program to calculate the price.



Bowling

- Calculate the total score of a game

- Rules:

- A game contains 10 frames
- In each frame, you have two deliveries of your ball, you can knock down up to ten pins, each pin counts 1 score
- If you knock down all the pins on your first ball, it is called a strike. The score doesn't get added on straight away because for a strike, you get the values of your next two balls as a bonus
- If you knock down some of the pins on the first ball, and knocked down the remainder of the pins in the second ball, it is known as a spare. Again, the score doesn't get added on straight away because for a spare, you get the values of your next ball as a bonus
- When it comes to the final frame, it is slightly different. In the final frame, you get bonus balls if you strike or spare, to a maximum of three deliveries

X	Strike
/	Spare
-	Miss

- Examples:

- Input: "XXXXXXXXXXXXX" output: 200
- Input: "-----" output: 0
- Input: "5/5/5/5/5/5/5/5/5/5" output: 150

Guess the number

- Guess 4 numbers, each number can be 0 to 9, no duplicated numbers in each game
- You can guess up to 6 rounds. Win if guess correct, otherwise lose
- Answer generated by the program randomly
- Each round, the program gives ***xAxB*** as the result of your guess, the number before A means how many numbers in the guess are correct position, the number before B means how many numbers are wrong in position

- Example:

- Answer: 1 2 3 4

- | Input | Output | Description |
|-----------|-------------------------|----------------------------------|
| • 1 5 6 7 | 1A0B | 1 number the position is correct |
| • 2 4 7 8 | 0A2B | 2 numbers in wrong position |
| • 0 3 2 4 | 1A2B | 1 correct, 2 in wrong position |
| • 5 6 7 8 | 0A0B | nothing correct |
| • 4 3 2 1 | 0A4B | all in wrong position |
| • 1 2 3 4 | 4A0B | all correct, win |
| • 1 1 2 3 | wrong inputs, try again | |
| • 1 2 | wrong inputs, try again | |



Scan to Number

You work for a bank, which has recently purchased an ingenious machine to assist in reading letters and faxes sent in by branch offices. The machine scans the paper documents, and produces a file with a number of entries which each look like this:

```
| _ | _ | _ | _ | _ | _ | _ |  
| | _ _ | _ | _ | _ | _ | _ |  
| | _ _ | _ | _ | _ | _ | _ |  
| | _ _ | _ | _ | _ | _ | _ |
```

- Each entry is 4 lines long, and each line has 27 characters.
- The first 3 lines of each entry contain an account number written using pipes (|) and underscores (_), and the fourth line is blank.
- Each account number should have 9 digits, all of which should be in the range 0-9.
- A normal file contains around 500 entries