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## 1. Introduction

### 1.1 What the game is and the techniques based on.

This is a basic Canvas game based on classic game 2048. This game mainly base on the keyboard input, canvas drawing, some jquery lib and some bootstrap CSS.

### 1.2 How it works and how to do it

First, we need to define the 4 variables when we do up, down, left, right. Most movement logic are included in this part and this is the most difficult part for me, since I need to consider all the possibilities that may happen.

Then, create array which used for saving consisted number, and define the way to draw tiles with numbers which are colored by different numbers. At the same time, the method that number random will be defined too.

At last, we init the game. When game over is defined in this part and every movement calls a canvas draw.

### 1.3 Screenshots and how to play

#### 1.3.1 Start

Press ↑, ↓, ←, →, and go to get 2048!

Start Game



Click here to start game

#### 1.3.2 Simple introduction of the game

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lock  
me!

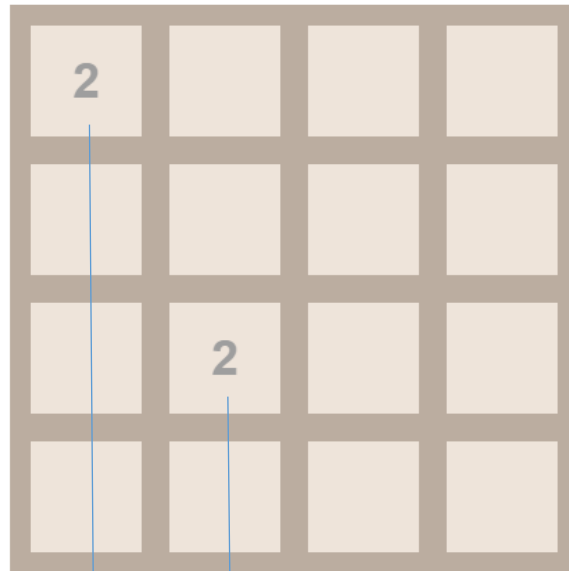


When mouse move on here,  
an simple introduction will  
be pulled out

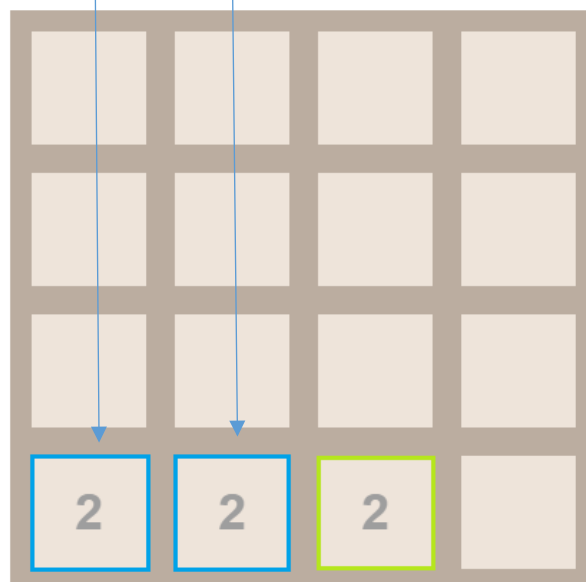
1.3.3. Game start, there will be two random numbers '2' or '4' displaying on the 4\*4 table.

Press ↑, ↓, ←, →, and go to get 2048!

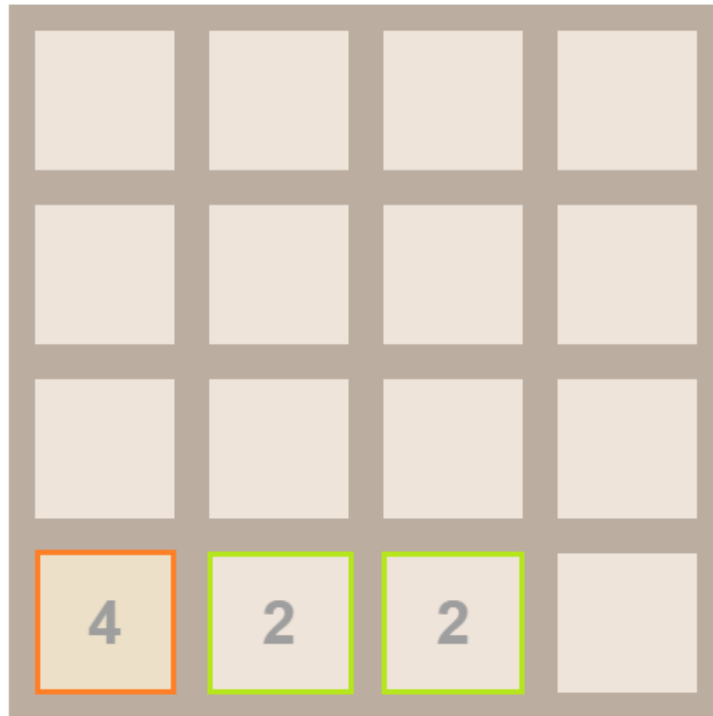
Start Game



1.3.4. For example, I press down arrow, that two number in step 3 will move to the bottom where the blue box shows. The same, if I press up arrow, numbers will move to the top. If press right arrow, will move to right. If press left arrow, will move to right. And at the same time, a new random number (2 or 4) will be displayed a random position if the position is null (where the green box shows).



1.3.5 When two tiles with the same number touch, they merge into one. In this example, orange box is from that two blue box in step 4, and at the same time, another new random number is displayed in a random position.



1.3.6 Then, loop step 4 or step 5. Example below.

4	16	64	4
16	32	256	16
4	128	8	
8	4	2	

1.3.7 Score board

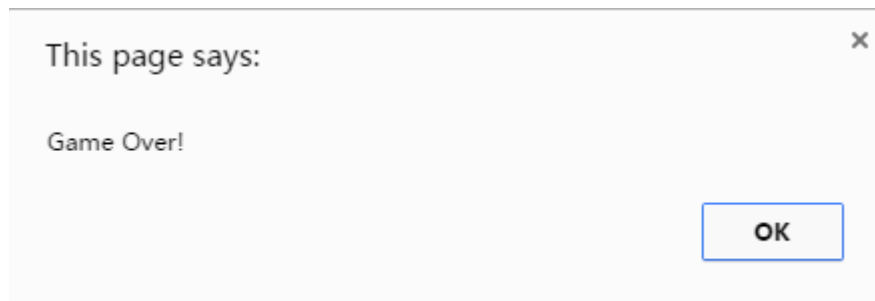
Score
6
Highest Score
276

## 2 Problems and expects

The most difficult part for me is the logic for each movement. It cost me about 1 week to solve this problem. Until now, I hardly can say it's perfect. In the future, I hope I can style nicely and add some more detail function. For example, when tiles moving, I hope the movement can be

saw by user, not just appear somewhere. At the same time, I'm working on storing the game data into the database so that we can resume next time when open the browser.

1.3.7 Until you cannot repeat step 4 or step 5 (you lose the game) or you get 2048 (win!). Here is the example that for game over (since I never won).



4	16	64	4
32	64	256	32
2	8	128	16
4	2	16	2