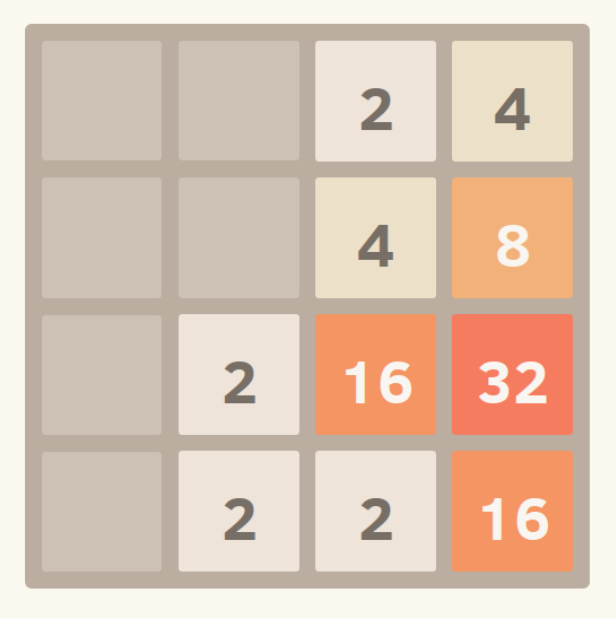
SUBJECT

You will implement a "2048 Game".

2048 GAME

2048 is a single-player puzzle game created in March 2014 by 19-year-old Italian web developer Gabriele Cirulli, in which the objective is to slide numbered tiles on a grid to combine them and create a tile with the number 2048.
2048 is played on a simple gray 4×4 grid, with numbered tiles that slide smoothly when a player moves them using the four arrow keys Every turn, a new tile will randomly appear in an empty spot on the board with a value of either 2 or 4 Tiles slide as far as possible in the chosen direction until they are stopped by either another tile or the edge of the grid. If two tiles of the same number collide while moving, they will merge into a tile with the total value of the two tiles that collided The resulting tile cannot merge with another tile again in the same move. Higher-scoring tiles emit a soft glow.

The user's score starts at zero, and is incremented whenever two tiles combine, by the value of the new tile.



A screenshot of 2048 game

2. System Details

This section describes the inputs and the outputs of your implementation. You must design your implementation according to the rules mentioned in this section.

2.1 System Parameters (Inputs and Outputs)

The program should ask the following parameter each round.

- The direction of the arrow

Each round, the system should display the previous and current state of the board. The new generated number would be shown with asterisk (2* or 4*).

Unless the board is full with numbers or not reached to the number 2048, the game will continue. The score should be updated each round.

The player should restore the previous state of the board, when she/he presses the "R" button. The player would end the game by pressing the button "E".

Whenever a new maximum of score is reached, you should update and display that score as HIGHEST SCORE until the user exits the program.

If the user wants reset the game, the player should press "X".

2.2 Interface

The board should be displayed by using underscore character " _ ", hypen " - " or vertical strip " | ".

2	2	4	4
		2	8
			16

Fig.2 The previous state

		4	8
		2	8
	2*		16

Fig. 3 The current state