



Assignment#5

Professor: Abolghasem Sadeghi-Niaraki

(E-mail Address) a.sadeqi313@gmail.com

Course Title: Web Programming

Student name: 이은서

(E-mail Address) les1999@naver.com

Student ID: 20011592

Due date: by 11:30pm, 17th May (Tuesday)

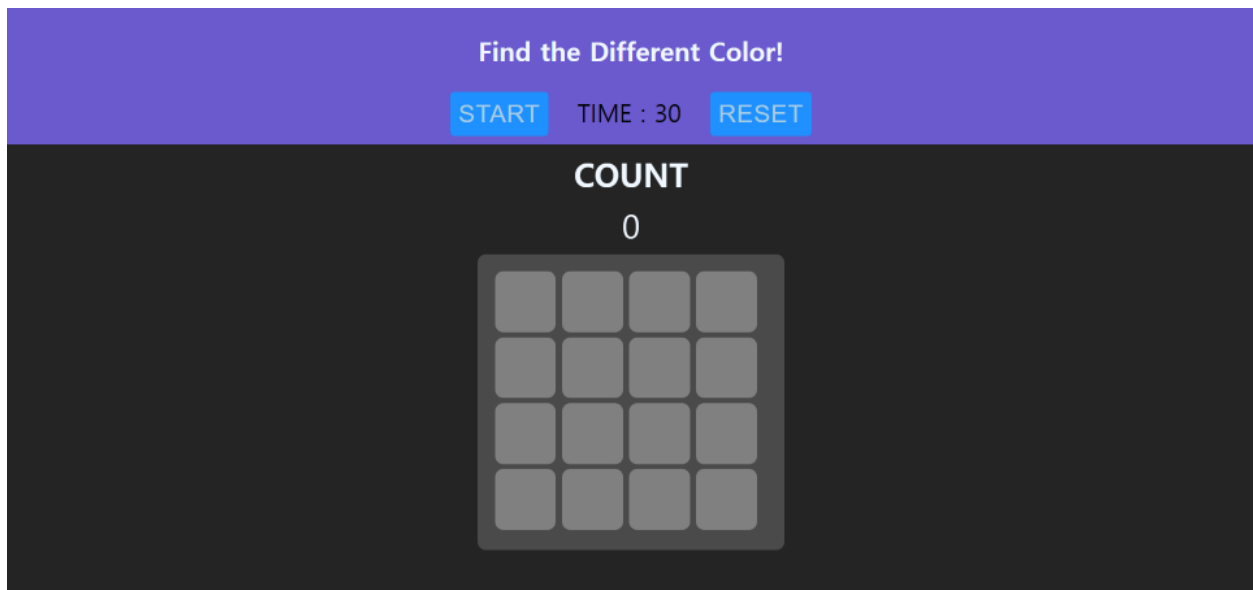
Implement a mini game using HTML, CSS, and JS.

Note1: The game can be just a re-implementation of a previously built game, or you can come up with your own idea to design a mini game.

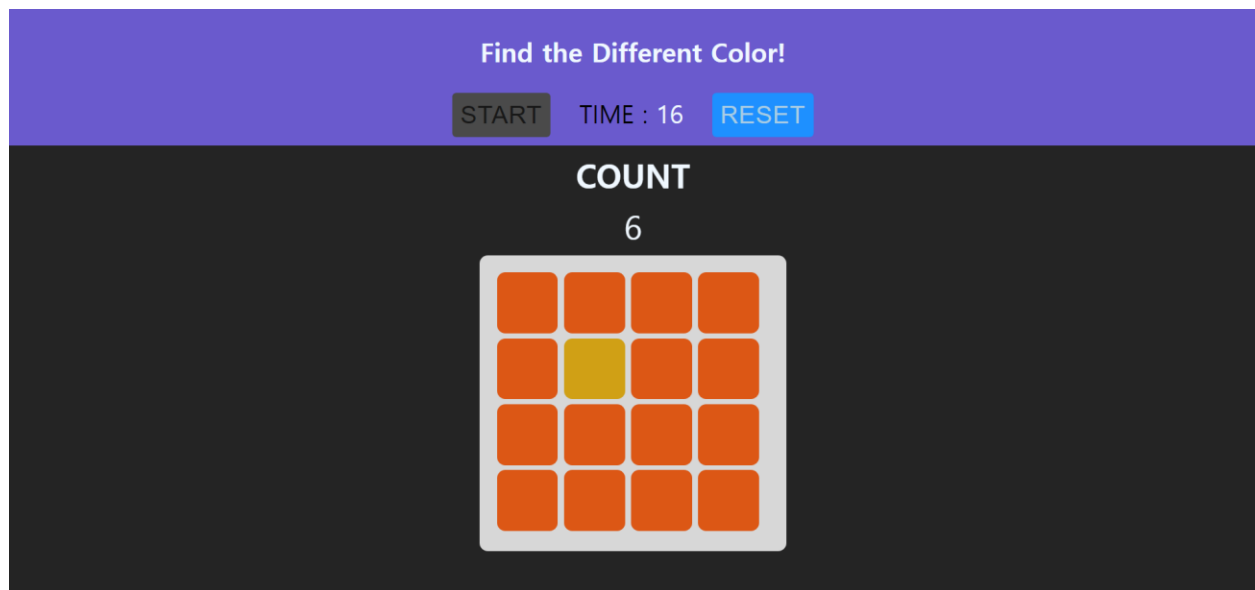
Note2: Make sure that you use HTML, CSS, and JS all together, not only one or two of them.

<Color Game!> is a simple game that which player should select one of the 16 squares with different colors and click it in 30 seconds.

- The initial page.

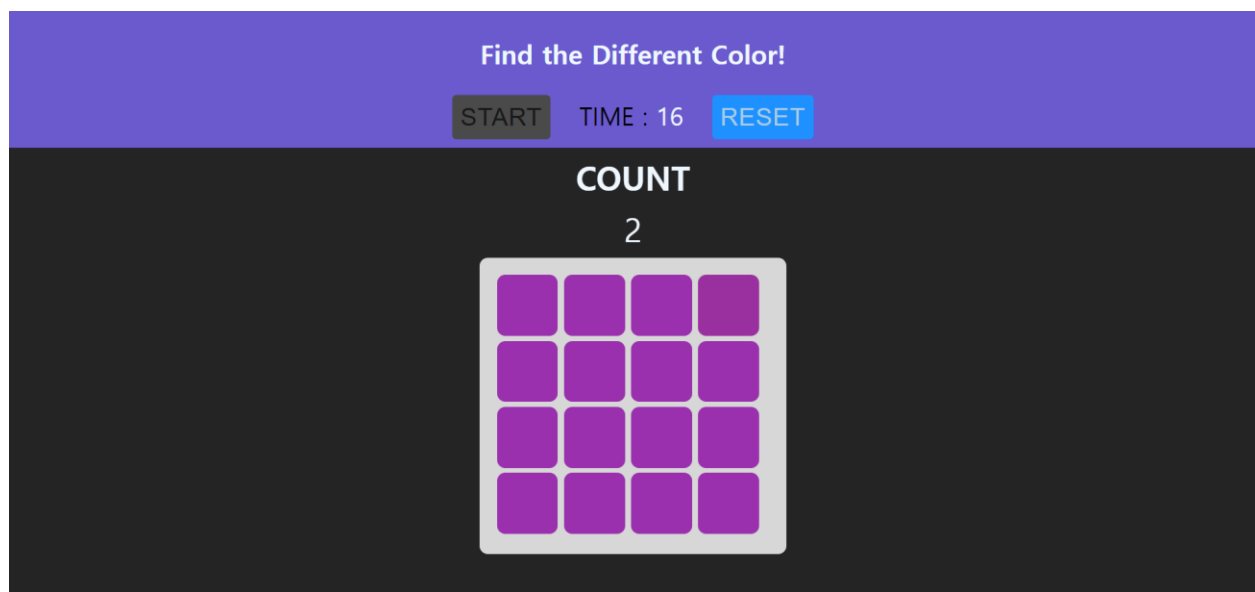


If player click the 'START' button, the game would be operated and boxes are filled with colors. Colors are chosen randomly.



For example, if player click the yellow box which surrounded orange boxes, then the number of COUNT will be increased by 1.

It looks like easy, but player will encounter some difficult stages.



It seems that there is no answer, but the answer is box[3].

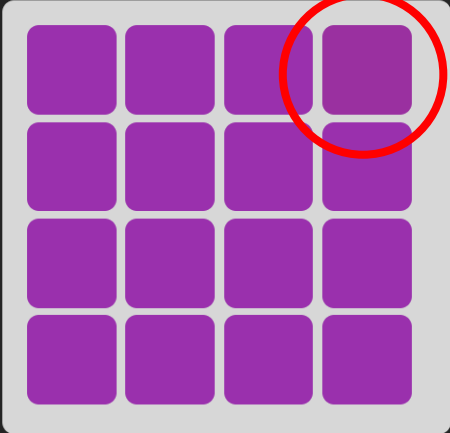
Find the Different Color!

START

TIME : 0

RESET

COUNT
2



DevTools is now available in Korean! [Always](#)

Elements Console Sources

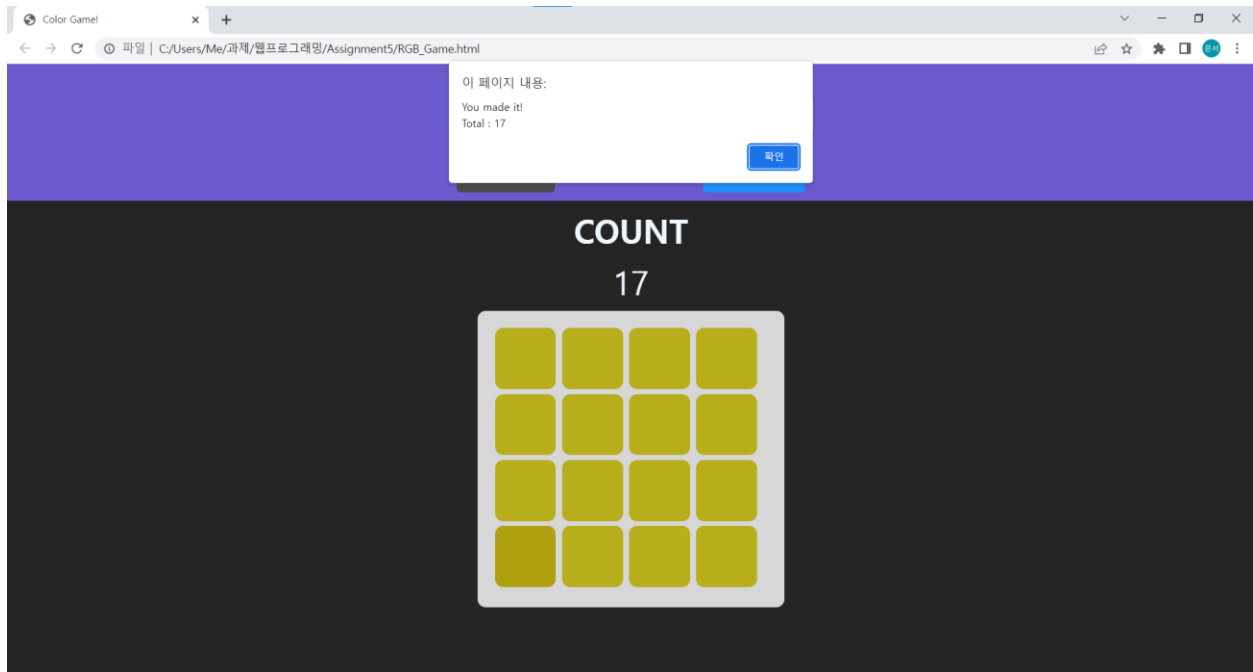
```
<!DOCTYPE html>
<html lang="en">
  <head>...</head>
  <body> == $0
    <div id="header">...</div>
    <div id="counter">...</div>
    <div id="gamebox" style="background-
      <script src="RGB.js.js"></script>
      <script src="https://code.jquery.com
        1IdTpu22PHhENmPcRdFiHRjhAuHcs05RI="
      </body>
    </html>
```

html body

Console Issues

바뀐 색상 코드 : #40ca80
BOX[11] is different!
CurrentColor = #9a30ad
바뀐 색상 코드 : #9a30a0
BOX[3] is different!

(You can check the answer by console log.)



When the game is finished, the alert would be shown with the result.

- Code

■ HTML ('Color Game.html')

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <link rel="stylesheet" href="ColorGame_CSS.css" />
    <title>Color Game!</title>
  </head>

  <body>
    <div id="header">
      <h1>Find the Different Color!</h1>
```

```
<div id="menu">
  <button id="start">START</button>
  <span>TIME : </span>
  <span id="time">30</span>
  <button id="reset">RESET</button>
</div>
</div>
<div id="counter">
  <p><b>COUNT</b></p>
  <p id="cnt">0</p>
</div>

<div id="gamebox">
  <div id="container">
    <div class="box"></div>
    <div class="box"></div>
    <div class="box"></div>
    <div class="box"></div>
    <div class="box"></div>
    <div class="box"></div>
    <div class="box"></div>
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    <div class="box"></div>
    <div class="box"></div>
    <div class="box"></div>
    <div class="box"></div>
  </div>
</div>
</body>
<script src="ColorGame_JS.js"></script>
<script
  src="https://code.jquery.com/jquery-3.6.0.slim.min.js"
  integrity="sha256-u7e5khyithlIdTpu22PHhENmPcRdFiHRjhAuHcs05RI="
  crossorigin="anonymous"
></script>
</html>
```

- CSS ('ColorGame_CSS.css')

```
body {
  background-color: #242424;
  font-family: "Nunito", sans-serif;
  margin: 0;
  padding-bottom: 30px;
}

#header {
  background-color: slateblue;
  margin: 0;
  height: 100%;
}

#menu {
  text-align: center;
  display: block;
  padding-bottom: 10px;
}

#start,
#reset {
  margin: auto 30px;
}

h1 {
  text-align: center;
  padding: 30px 0px;
  margin: 0;
  color: aliceblue;
}

span {
  font-size: 30px;
}
```

```
button {
  height: 100%;
  padding: 10px;
  font-size: 30px;
  margin: 0;
  letter-spacing: 1px;
  background-color: dodgerblue;
  color: rgb(169, 204, 229);
  border: none;
  border-radius: 5px;
}

button:hover {
  background-color: rgb(41, 95, 149);
}

button:active {
  color: #242424;
}

p {
  margin: 10px auto;
  text-align: center;
  color: aliceblue;
  font-size: 40px;
}

#gamebox {
  margin: 0 auto;
  max-width: 377px;
  max-height: 365px;
  background-color: rgb(74, 74, 74);
  border-radius: 10px;
}

#container {
  padding: 20px;
}

.box {
  background-color: grey;
  border-radius: 10px;
  width: 75px;
```



```

height: 75px;
margin: 1px;
display: inline-flex;
grid-template-columns: 1fr 1fr 1fr;
grid-template-rows: repeat(3, 200px);
justify-items: center;
}

```

■ JavaScript ('ColorGame_JS.js')

```

let count = 0; //Click counter
let squares = document.querySelectorAll(".box");
let clickedColor; //Answer color
let currentColor; //Normal color
let originalColor; //To save the original color
let wrongNum; //Answer box index
let timeleft = 30; //for Countdown
let ClicktheBox = false;
let startButton = document.querySelector("#start");
let resetButton = document.querySelector("#reset");

ColorGame();

//Let's Play the Game!

function ColorGame() {
startButton.addEventListener("click", startGame);
resetButton.addEventListener("click", resetGame);
}

//-----Function-----

//Select the color randomly
function ColorCode() {
var randomColor = "#" + parseInt(Math.random() * 0xffffffff).toString(16);
if (randomColor == "#d7d7d7") {
return ColorCode();
}
}

```

```

}
//I don't know why some color code output shorter than 7.
//So, If a seven-character color code does not appear as a conditional statement, the
color code will be generated again.
if (randomColor.length < 7) {
return ColorCode();
}
return randomColor;
}

//Fill the box with color
function fillSquare() {
currentColor = ColorCode();

for (var i = 0; i < squares.length; i++) {
squares[i].style.backgroundColor = currentColor;
}
}

//Find the different color box
function pickSquare() {
let random = Math.floor(Math.random() * squares.length);
clickedColor = wrongColor();
squares[random].style.backgroundColor = clickedColor;
console.log("BOX[" + random + "] is different!");
return random;
}

//Find the wrong color
function wrongColor() {
originalColor = currentColor;
let resultColor = originalColor;

//Modify the color hex code
for (var i = 2; i < 7; i++) {
if (i % 2 == 1) continue;
if (originalColor[i] >= "0" && originalColor[i] <= "5") {
changeNum = "a";
} else if (originalColor[i] >= "6" && originalColor[i] <= "9") {
changeNum = "0";
}
}
}

```

```

    } else {
    changeNum = "2";
    }
    resultColor = resultColor.replace(resultColor[i], changeNum);
  }

  console.log("바뀐 색상 코드 : " + resultColor);
  return resultColor;
}

//If the color you clicked is different from the current color -> Increase counter +1

function CounterUp() {
  count = count + 1;
  document.getElementById("cnt").innerHTML = count;
}

// Countdown
function Count_time() {
  document.getElementById("time").style.color = "aliceblue";
  let timer = setInterval(function () {
    //time decrease by sec
    document.getElementById("time").innerHTML = timeleft;
    timeleft--;
    //Time Out
    if (timeleft < 10) document.getElementById("time").style.color = "#FF6A6A";
    if (timeleft < 5) document.getElementById("time").style.color = "#FF2222";
    if (timeleft < 0 || document.getElementById("start").disabled == false) {
      document.getElementById("time").innerHTML = "0";
      clearInterval(timer);
      clearTimeout(timer);
      ClikctheBox = false;
      squares[wrongNum].removeEventListener("click", SelectBox);
      if (timeleft < 0) alert("You made it!" + "\n" + "Total : " + count);
    }
  }, 1000);
}

//Choose the box
function SelectBox() {

```

```

CounterUp();
ClikctheBox = true;
if (ClikctheBox) {
ClikctheBox = false;
squares[wrongNum].removeEventListener("click", SelectBox);
playingGame();
}
}

//Disable the START button
function disableSTART() {
$("#start").prop("disabled", true);
document.getElementById("start").style.backgroundColor = "rgb(74, 74, 74)";
document.getElementById("start").style.color = "rgb(24, 24, 24)";
}

//Activate the START button
function activeSTART() {
$("#start").prop("disabled", false);
document.getElementById("start").style.backgroundColor = "dodgerblue";
document.getElementById("start").style.color = "rgb(169, 204, 229)";
}

//Operate the game
function startGame() {
Count_time();
playingGame();

disableSTART();
}

//Reset the game
function resetGame() {
init();
activeSTART();
document.getElementById("time").style.color = "#000000";
ColorGame();
}

//Initialize the game

```

```
function init() {
timeleft = 30;
document.getElementById("time").style.color = "aliceblue";
document.getElementById("time").innerHTML = timeleft;
count = 0;
document.getElementById("cnt").innerHTML = count;
document.getElementById("gamebox").style.backgroundColor = "rgb(74, 74, 74)";
for (var i = 0; i < 16; i++)
document.querySelectorAll(".box")[i].style.backgroundColor = "grey";
}
```

```
//Game playing
function playingGame() {
document.getElementById("gamebox").style.backgroundColor =
"rgb(215, 215, 215)";
fillSquare();
console.log("CurrentColor = " + currentColor);
wrongNum = pickSquare();
squares[wrongNum].addEventListener("click", SelectBox);
}
```