THE COMPLETE WEB
DEVELOPMENT
COURSE

STEP BY STEP
WITH
NO STEP SKIPPED

Mathematics Game

SOURCE CODE

DEVELOPMENT ISLAND
help@completewebdevelopmentcourse.co.uk

```html
<!--index.html-->
<!DOCTYPE html>
<html lang="en">
    <head>
        <title>Maths Game</title>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width,
initial-scale=1, user-scalable=yes">
        <link rel="stylesheet" href="styling.css">
    </head>

    <body>
        <div id="container">
            <div id="score">
                Score: <span id="scorevalue">0</span>
            </div>
            <div id="correct">
                Correct
            </div>
            <div id="wrong">
                Try again
            </div>
            <div id="question">

            </div>
            <div id="instruction">
```

```html
                    Click on the correct answer
            </div>
            <div id="choices">
                <div id="box1" class="box"></div>
                <div id="box2" class="box"></div>
                <div id="box3" class="box"></div>
                <div id="box4" class="box"></div>
            </div>
            <div id="startreset">
                Start Game
            </div>
            <div id="timeremaining">
                Time remaining: <span
id="timeremainingvalue">60</span> sec
            </div>
            <div id="gameOver">

            </div>
        </div>
        <script src="javascript.js"></script>
    </body>
</html>
```

```css
/*styling.css*/
html{
    height: 100%;
    background: radial-gradient(circle, #fff, #ccc);
    background: -webkit-radial-gradient(circle, #fff,
#ccc);
    background: -o-radial-gradient(circle, #fff, #ccc);
    background: -moz-radial-gradient(circle, #fff, #ccc);
}

#container{
    height: 400px;
    width: 550px;
    background-color: #9DD2EA;
    margin: 100px auto;
    padding: 20px;
    border-radius: 10px;
```

```css
    box-shadow: 0px 4px 0px 0px #009de4;
    -moz-box-shadow: 0px 4px 0px 0px #009de4;
    -webkit-box-shadow: 0px 4px 0px 0px #009de4;
/*          box-shadow: [horizontal offset] [vertical
offset] [blur radius] [optional spread radius] [color]*/
    position: relative;
}

#score{
    background-color: #F1FF92;
    color: #888E5F;
    padding: 11px;
    position: absolute;
    left: 500px;
    box-shadow: 0px 4px 0px #9da853;
    -moz-box-shadow: 0px 4px 0px #9da853;
    -webkit-box-shadow: 0px 4px 0px #9da853;
}

#correct{
    position: absolute;
    left: 260px;
    background-color: #42e252;
    color: white;
    padding: 11px;
    display: none;
}

#wrong{
    position: absolute;
    left: 250px;
    background-color: #de401a;
    color: white;
    padding: 11px;
    display: none;
}

#question{
    width: 450px;
    height: 150px;
    margin: 50px auto 10px auto;
    background-color: #9DA0EA;
```

```css
        box-shadow: 0px 4px #535aa8;
        -moz-box-shadow: 0px 4px #535aa8;
        -webkit-box-shadow: 0px 4px #535aa8;
        font-size: 100px;
        text-align: center;
        font-family: cursive, sans-serif;
        color: black;
}

#instruction{
        width: 450px;
        height: 50px;
        background-color: #B481D9;
        margin: 10px auto;
        text-align: center;
        line-height: 45px;
        box-shadow: 0px 4px #8153a8;
        -moz-box-shadow: 0px 4px #8153a8;
        -webkit-box-shadow: 0px 4px #8153a8;
}

#choices{
        width: 450px;
        height: 100px;
        margin: 5px auto;
}

.box{
        width: 85px;
        height: 85px;
        background-color: white;
        float: left;
        margin-right: 36px;
        border-radius: 3px;
        cursor: pointer;
        box-shadow: 0px 4px rgba(0, 0, 0, 0.2);
        -moz-box-shadow: 0px 4px rgba(0, 0, 0, 0.2);
        -webkit-box-shadow: 0px 4px rgba(0, 0, 0, 0.2);
        text-align: center;
        line-height: 80px;
        position: relative;
        transition: all 0.2s;
```

```css
    -webkit-transition: all 0.2s;
    -moz-transition: all 0.2s;
    -o-transition: all 0.2s;
    -ms-transition: all 0.2s;
}

.box:hover, #startreset:hover{
/*    background-color: #9C89F6;*/
/*    color: white;*/
/*    box-shadow: 0px 4px #6b54d3;*/
/*    -moz-box-shadow: 0px 4px #6b54d3;*/
/*    -webkit-box-shadow: 0px 4px #6b54d3;*/
}

.box:active, #startreset:active{
    background-color: #9C89F6;
    color: white;
    box-shadow: 0px 0px #6b54d3;
    -moz-box-shadow: 0px 0px #6b54d3;
    -webkit-box-shadow: 0px 0px #6b54d3;
    top: 4px;
}
#box4{
    margin-right: 0;
}

#startreset{
    width: 78px;
    padding: 10px;
    background-color: rgba(255,255,255,0.5);
    margin: 0 auto;
    border-radius: 3px;
    cursor: pointer;
    box-shadow: 0px 4px rgba(0, 0, 0, 0.2);
    -moz-box-shadow: 0px 4px rgba(0, 0, 0, 0.2);
    -webkit-box-shadow: 0px 4px rgba(0, 0, 0, 0.2);
    text-align: center;
    position: relative;
    transition: all 0.2s;
    -webkit-transition: all 0.2s;
    -moz-transition: all 0.2s;
    -o-transition: all 0.2s;
```

```css
    -ms-transition: all 0.2s;
}

#timeremaining{
    width: 152px;
    padding: 10px;
    position: absolute;
    top: 395px;
    left: 400px;
    background-color: rgba(181, 235, 36, 0.8);
    border-radius: 3px;
    box-shadow: 0px 4px rgba(0, 0, 0, 0.2);
    -moz-box-shadow: 0px 4px rgba(0, 0, 0, 0.2);
    -webkit-box-shadow: 0px 4px rgba(0, 0, 0, 0.2);
/*    visibility: hidden;*/
    display: none;
}

#gameOver{
    height: 200px;
    width: 500px;
    background: linear-gradient(#F3CA6B, #F3706C);
    background: -webkit-linear-gradient(#F3CA6B, #F3706C);
    background: -o-linear-gradient(#F3CA6B, #F3706C);
    background: -moz-linear-gradient(#F3CA6B, #F3706C);
    color: white;
    font-size: 2.5em;
    text-align: center;
    text-transform: uppercase;
    position: absolute;
    top: 100px;
    left: 45px;
    z-index: 2;
    display: none;


}
```

```javascript
//javascript.js
var playing = false;
var score;
```

```javascript
var action;
var timeremaining;
var correctAnswer;

//if we click on the start/reset
document.getElementById("startreset").onclick =
function(){

    //if we are playing

    if(playing == true){

        location.reload(); //reload page

    }else{//if we are not playing

        //change mode to playing

        playing = true;

        //set score to 0

        score = 0;
        document.getElementById("scorevalue").innerHTML =
score;

        //show countdown box

        show("timeremaining");
        timeremaining = 60;

document.getElementById("timeremainingvalue").innerHTML =
timeremaining;

        //hide game over box

        hide("gameOver");

        //change button to reset
        document.getElementById("startreset").innerHTML =
"Reset Game";
```

```javascript
        //start countdown

        startCountdown();

        //generate a new Q&A

        generateQA();
    }

}

//Clicking on an answer box

for(i=1; i<5; i++){
    document.getElementById("box"+i).onclick = function(){
    //check if we are playing
    if(playing == true){//yes
        if(this.innerHTML == correctAnswer){
        //correct answer

            //increase score by 1
            score++;

document.getElementById("scorevalue").innerHTML = score;
            //hide wrong box and show correct box
            hide("wrong");
            show("correct");
            setTimeout(function(){
                hide("correct");
            }, 1000);

            //Generate new Q&A

            generateQA();
        }else{
        //wrong answer
            hide("correct");
            show("wrong");
            setTimeout(function(){
                hide("wrong");
            }, 1000);
        }
```

```
        }
    }
}
//if we click on answer box
    //if we are playing
        //correct?
            //yes
                //increase score
                //show correct box for 1sec
                //generate new Q&A
            //no
                //show try again box for 1sec


//functions

//start counter

function startCountdown(){
    action = setInterval(function(){
        timeremaining -= 1;

document.getElementById("timeremainingvalue").innerHTML =
timeremaining;
        if(timeremaining == 0){// game over
            stopCountdown();
            show("gameOver");
         document.getElementById("gameOver").innerHTML =
"<p>Game over!</p><p>Your score is " + score + ".</p>";
            hide("timeremaining");
            hide("correct");
            hide("wrong");
            playing = false;

document.getElementById("startreset").innerHTML = "Start
Game";
        }
    }, 1000);
}

//stop counter
```

```javascript
function stopCountdown(){
    clearInterval(action);
}

//hide an element

function hide(Id){
    document.getElementById(Id).style.display = "none";
}

//show an element

function show(Id){
    document.getElementById(Id).style.display = "block";
}

//generate question and multiple answers

function generateQA(){
    var x = 1+ Math.round(9*Math.random());
    var y = 1+ Math.round(9*Math.random());
    correctAnswer = x*y;
    document.getElementById("question").innerHTML = x +
"x" + y;
    var correctPosition = 1+ Math.round(3*Math.random());

document.getElementById("box"+correctPosition).innerHTML =
correctAnswer; //fill one box with the correct answer

    //fill other boxes with wrong answers

    var answers = [correctAnswer];

    for(i=1; i<5; i++){
        if(i != correctPosition) {
            var wrongAnswer;
            do{
                wrongAnswer = (1+
Math.round(9*Math.random()))*(1+
Math.round(9*Math.random())); //a wrong answer
            }while(answers.indexOf(wrongAnswer)>-1)
```

```
            document.getElementById("box"+i).innerHTML =
wrongAnswer;
            answers.push(wrongAnswer);
        }
    }
}
```