

# Assignment Handout 1

## Dodge the Block (Part 1)

### Objective

In this assignment, you'll begin building a keyboard-controlled game where the player must **dodge falling obstacles** using the arrow keys or WASD.




This is **Part 1 of a 2-part game project**. In this first part, your focus is on building the **core gameplay mechanics**.

---

### What You Will Build

- A red square (player) that you can move left and right with the keyboard
- Black squares (blocks) that fall from the top of the screen
- A collision detection system that ends the game when you get hit

Next class, we will add:

- Scoring system 
  - Game over screen 
  - Leaderboard stored with `localStorage` 
- 

### Starter Code

You have been provided with starter code:

- The red player box is already moving left/right
- Blocks are generated every few seconds and fall down

Your job is to **complete the missing pieces**.

If you didn't receive the file, download:

 `dodge-game-start.html` from the course drive or GitHub

---

## ✓ Your Tasks

### 1. Collision Detection 🔍

Use `getBoundingClientRect()` to detect if the red player and a falling black block are overlapping.

```
const p = player.getBoundingClientRect();
const b = block.getBoundingClientRect();

if (
  p.left < b.right &&
  p.right > b.left &&
  p.top < b.bottom &&
  p.bottom > b.top
) {
  // Collision detected!
}
```

When a collision is detected:

- Show an `alert("Game Over!")`
- Stop all falling blocks (hint: `clearInterval()`)

### 2. Optional: Limit Player Movement 🚧

Make sure the player cannot move off-screen:

```
if (playerX < 0) playerX = 0;
if (playerX > gameAreaWidth - playerWidth) playerX = gameAreaWidth - playerWidth;
```

### 3. Optional: Improve Game Feel 🎨

- Add a background color to the game
- Add transition to falling blocks or player

- Add a slight “shake” or flash effect on collision
- 

## Submission Instructions

- Save your completed file as: `yourname-dodge.html`
  - Submit on Google Classroom / course site
  - You may work individually or with a partner (if allowed)
- 

## Reflection (Write in a comment at the bottom of your code)

Add this as a comment block at the bottom of your HTML:

```
<!--  
Reflection:  
1. What was the hardest part of this assignment?  
2. What did you enjoy the most?  
3. If you had more time, what would you add to your game?  
-->
```

## Next Time...

We'll add:

- A real-time score counter
  - A Game Over screen with your score
  - A local leaderboard that saves your top scores!
- 

Let the dodging begin! 🌀