Intro to Computer Science
CS-UH 1001, Spring 2022

Super Mario II and Final Project

Sprites

1100

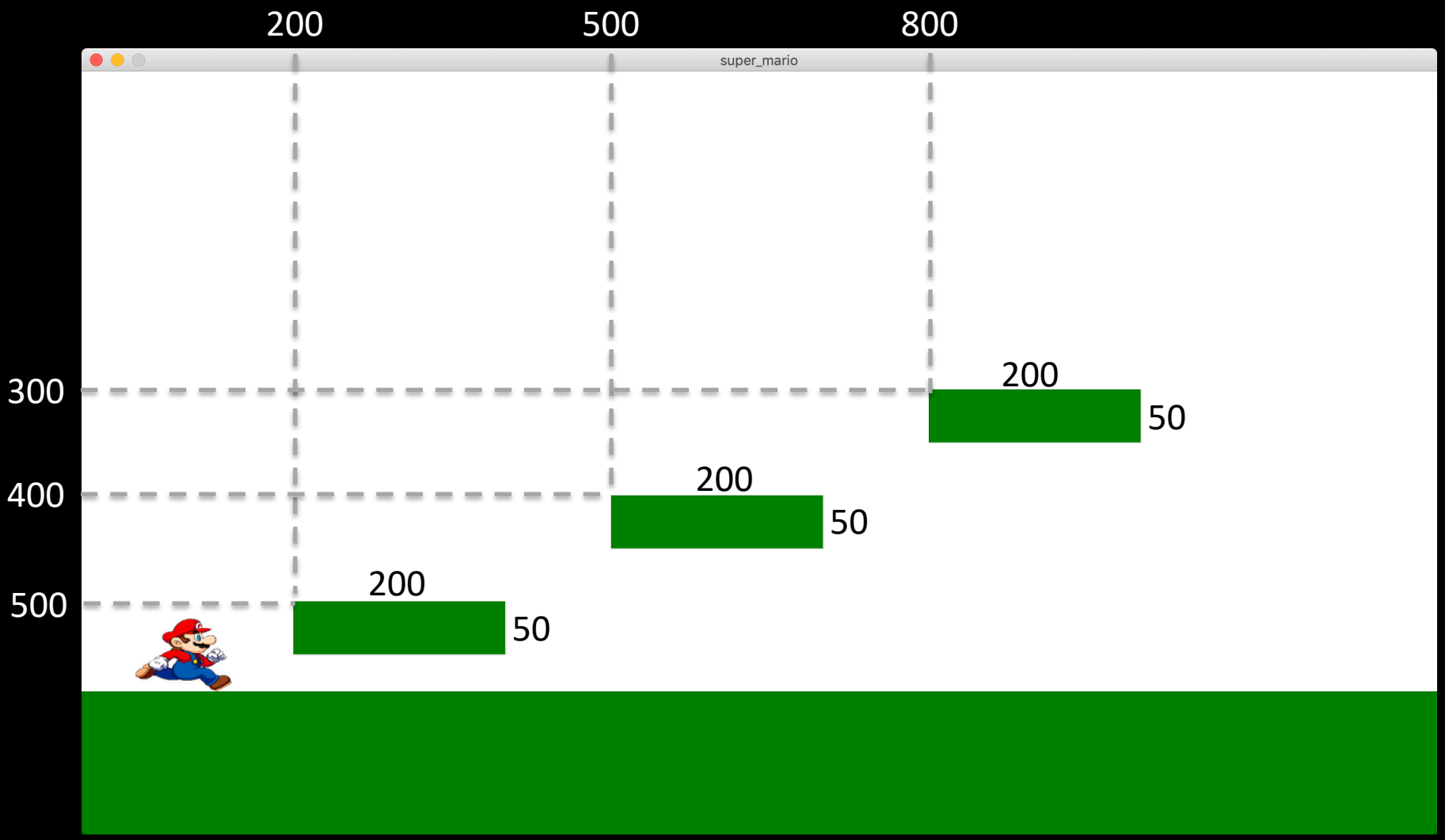
70

# slices: 11
slice_w = 100
slice_h = 70

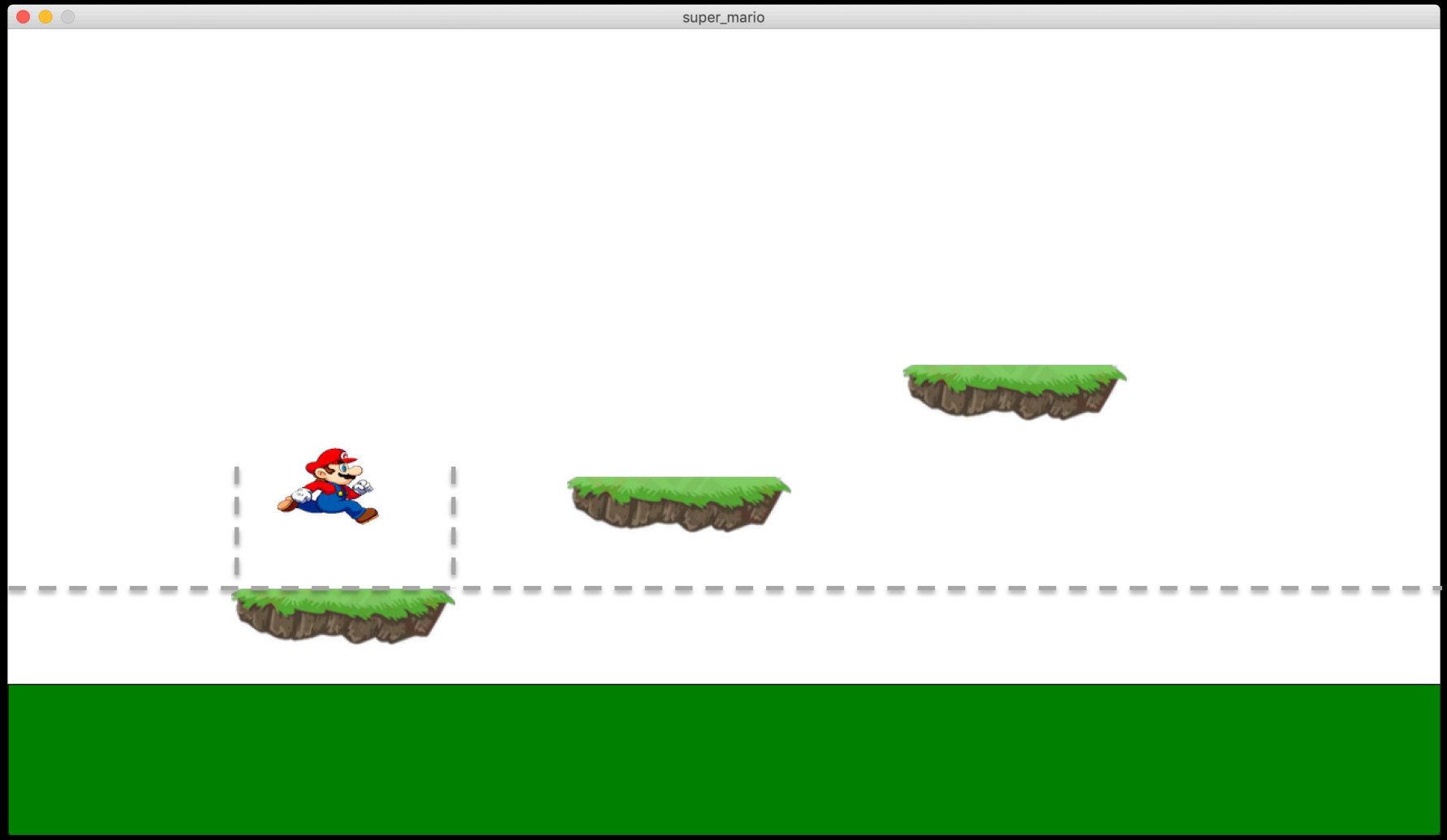
x1: slice * slice_w
y1: 0

x2: (slice + 1) * slice_w
y2: slice_ h

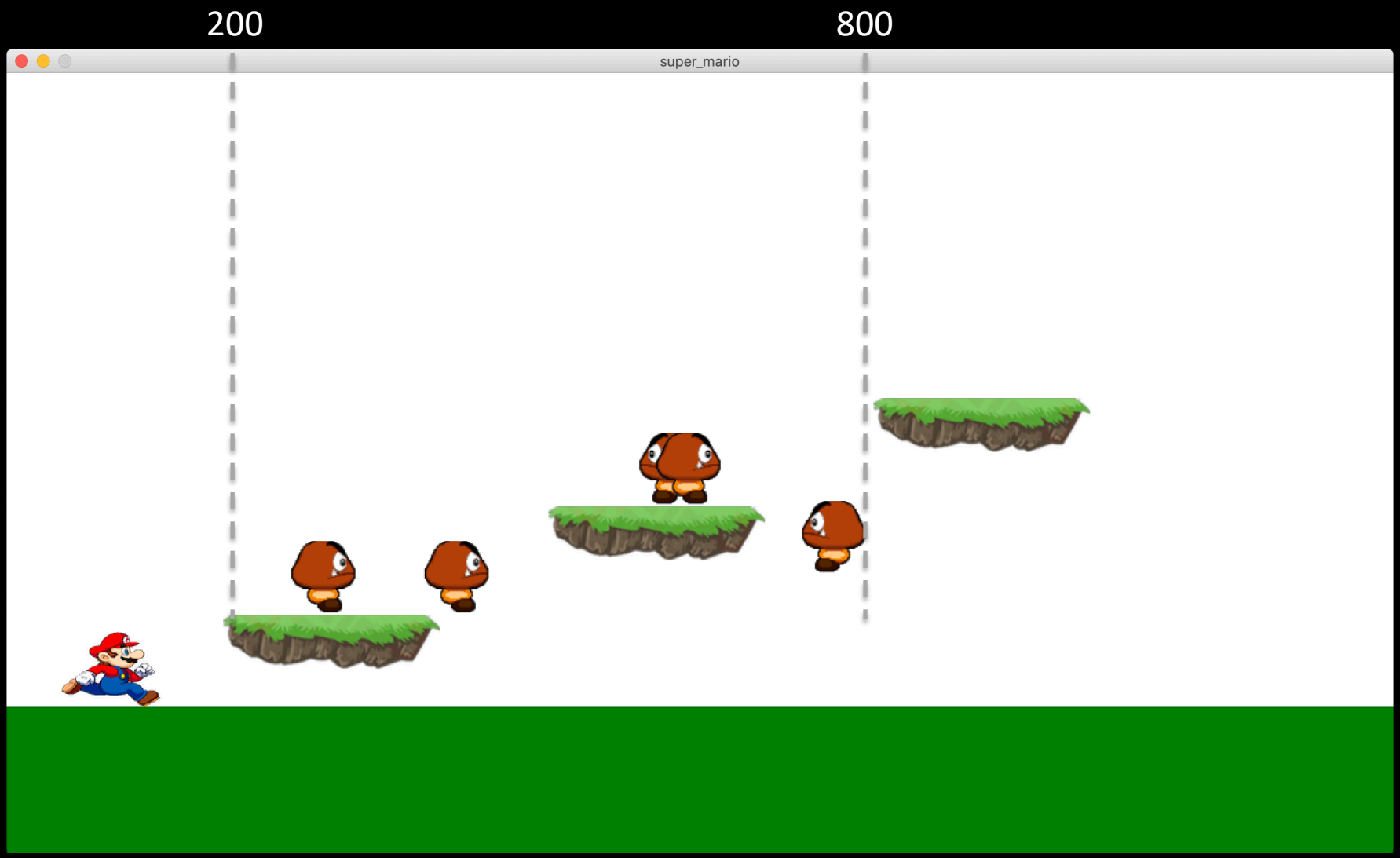
Platforms



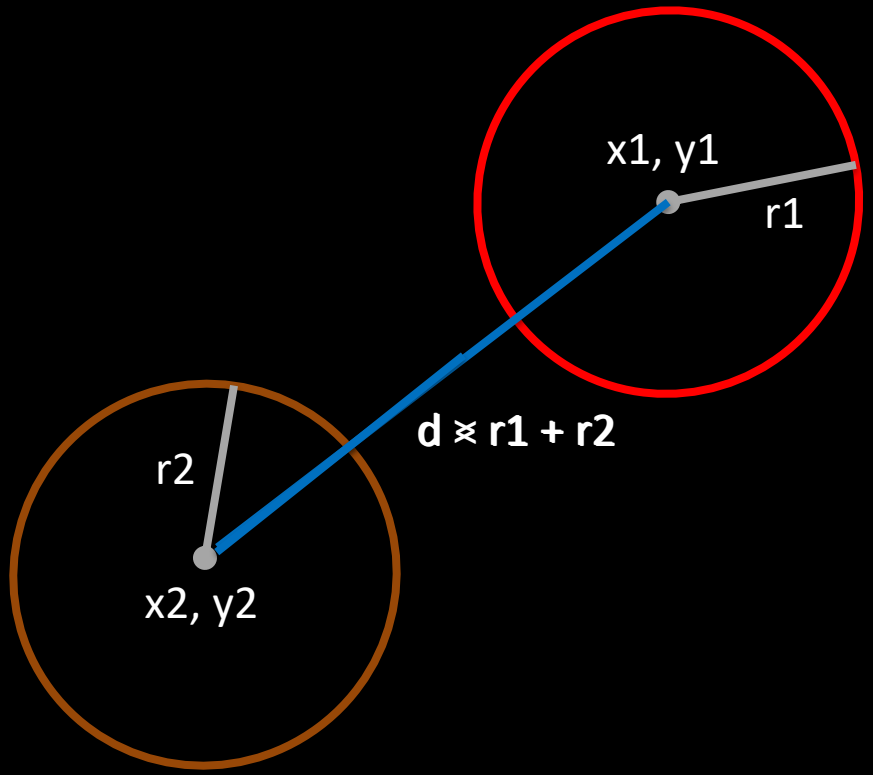
Platforms and Gravity



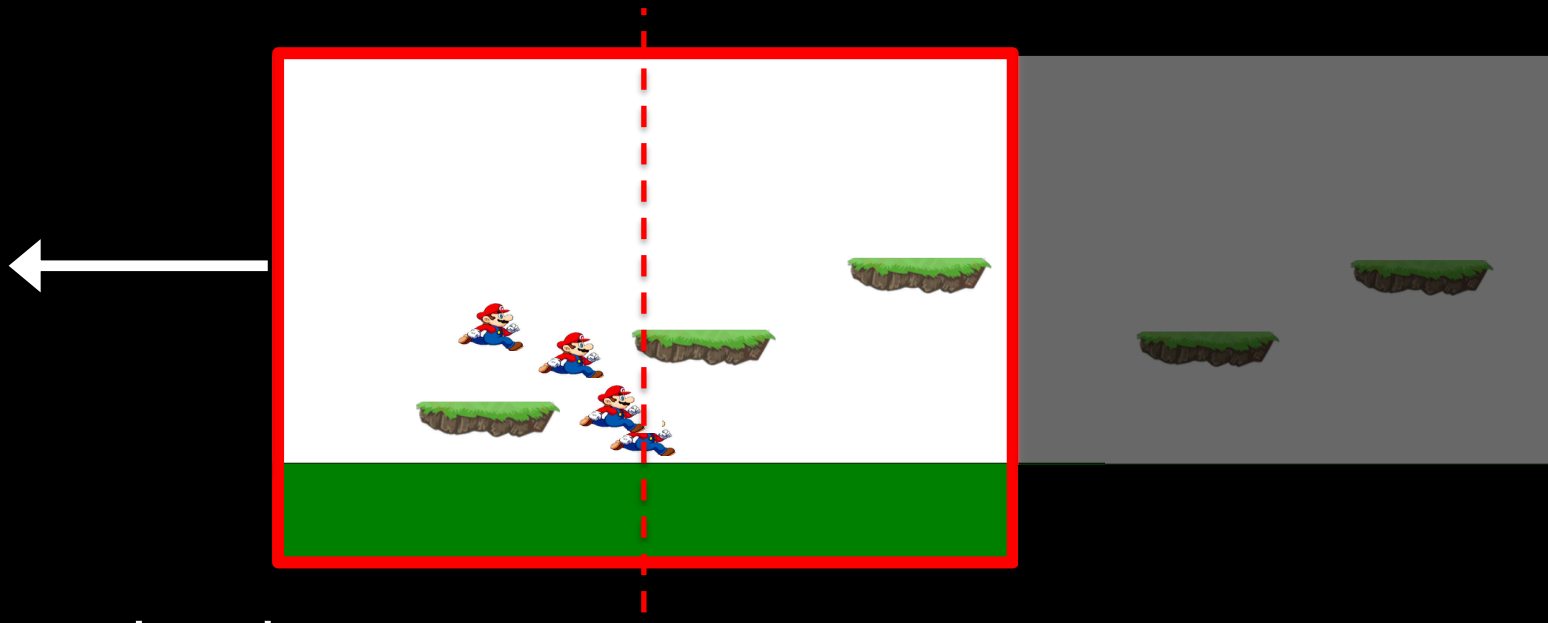
Gombas



Collision Detection



Level

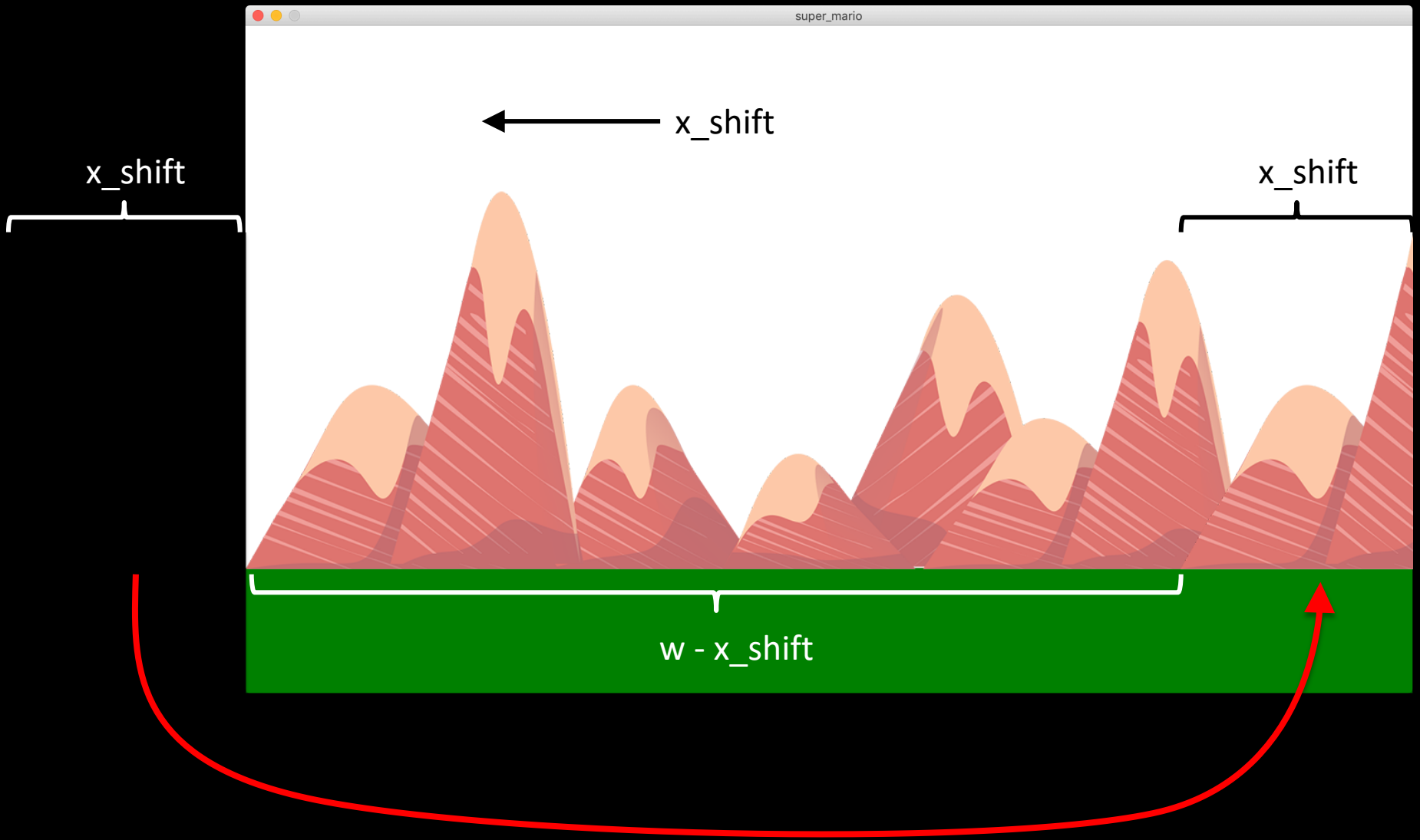


x_shift

```
if mario.x >= game.w/2:
        # stop Mario's movement
        # shift ALL objects to the left by x_shift pixels
```

x_shift is the accumulation of Mario's velocity

Parallax Effect



Final Project

Final Project

- The final project consists of the following:
  1. Implementation of a game of your choice
  2. Project proposal in written form
  3. Kick-off presentation
  4. Final submission

1. Game Implementation

- A game of your choice using Python and Processing
- The game can be (inspired by) an existing game
  - Except: Super Mario, Snake, Tetris, Minesweeper, Flappy Bird, Agar.io, Squid Game, etc
  - Except: A game from another group
- The final projects will be done in groups of 2
  - Partner selection: Pick whoever you want from your section, but once the project starts you cannot switch partners
- Send an email to the TA and me with your pairing
- Let me know asap if you can not find a partner

2. Project Proposal

- The proposal must be in written form and submitted as a PDF with max 2 pages
- It must provide
  - a brief description of your idea and a list of game features you plan to integrate
  - who of your group members is doing which task/features
  - a mock design/screenshot/drawing of your proposed game to support your idea
- The project proposal must be submitted via Brightspace no later than April 18, 11:59pm
  - Only one submission per group

3. Kick-off Presentation

- Presentations will be during class time:
  April 20
- The presentation should incorporate the feedback received, if any
- The presentation should describe your project and, if possible, show mock screenshots of your proposal
- A short demo of a similar game may also be helpful, but is not required
- Both group members have to present
- Each group has 10 minutes plus 2 minutes discussion

4. Final Submission

1. A game implementation using Processing and Python, including, but not limited to:
   - Keyboard and/or mouse interaction
   - Object-oriented programming
   - Image/Sound effects
   - The ability to restart the game on game over
   - A score/result indicating the performance of the player and/or a win/lose indication
   - A complete level or a set of challenges that the player can play
2. A screenshot of your game
3. The kick-off presentation as ppt or pdf

Submit a compressed ZIP file including ALL files

- One submission per group

Final project due:

- May 15, 11:59pm