Period: 3
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Group name: citrus
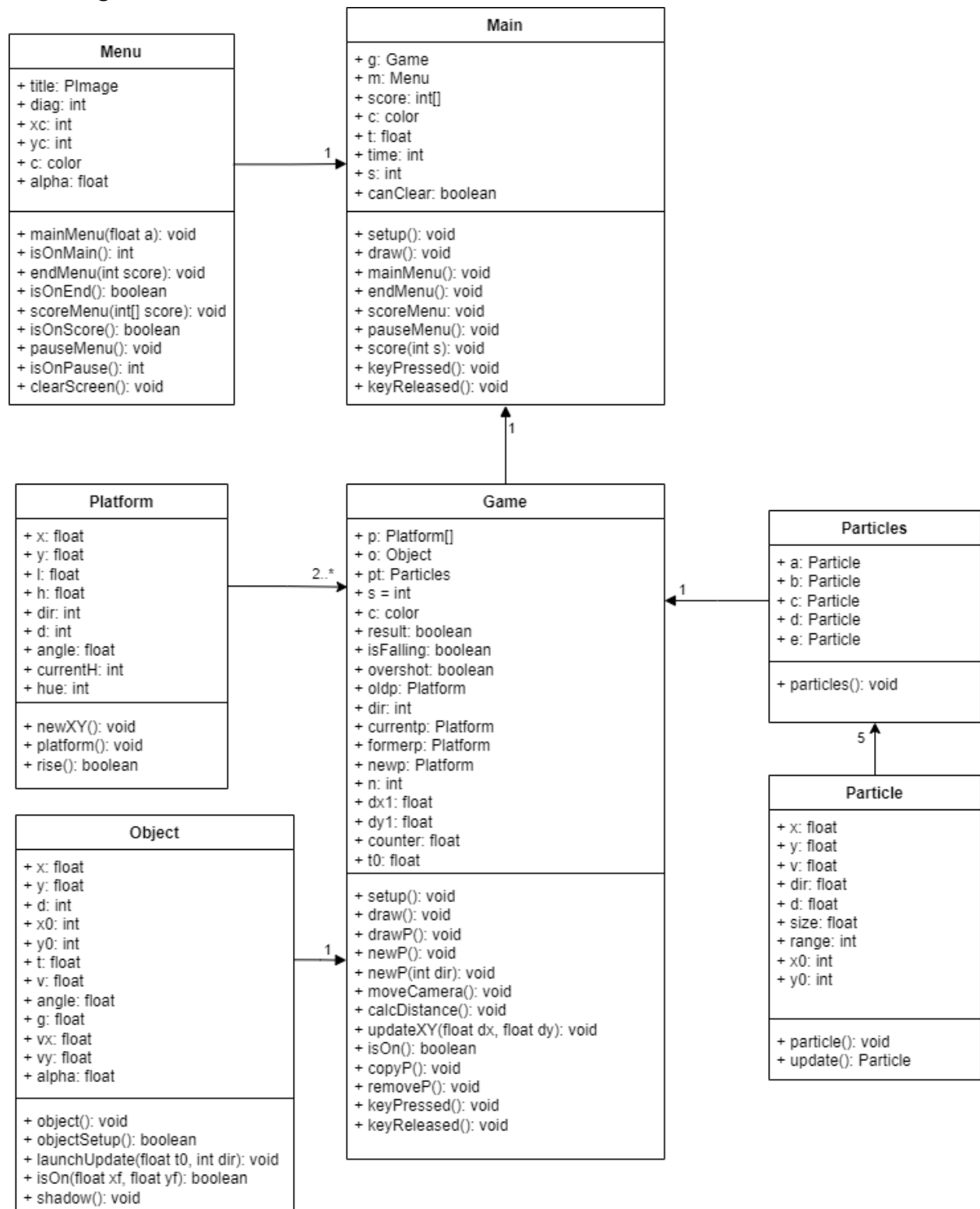**Project title:** Jump
Project description:
Player controls an object on a platform. The next platform is a certain distance away from the current one. The longer the player holds down the farther the object jumps. The goal is to reach the maximum number of platforms without dying.
Functionalities:

- Main menu with options to start a new game and view scores.
- Score menu keeps track of the highest 5 scores from past gameplay.
- End menu with option to return to the main menu.
- Press Q to pause the game with the option to resume or return to the main menu.
- Hold down the spacebar to make the object jump further.

UML Diagram:

Menu

+ title: PImage
+ diag: int
+ xc: int
+ yc: int
+ c: color
+ alpha: float

+ mainMenu(float a): void
+ isOnMain(): int
+ endMenu(int score): void
+ isOnEnd(): boolean
+ scoreMenu(int[] score): void
+ isOnScore(): boolean
+ pauseMenu(): void
+ isOnPause(): int
+ clearScreen(): void

Main

+ g: Game
+ m: Menu
+ score: int[]
+ c: color
+ t: float
+ time: int
+ s: int
+ canClear: boolean

+ setup(): void
+ draw(): void
+ mainMenu(): void
+ endMenu(): void
+ scoreMenu: void
+ pauseMenu(): void
+ score(int s): void
+ keyPressed(): void
+ keyReleased(): void

Platform

+ x: float
+ y: float
+ l: float
+ h: float
+ dir: int
+ d: int
+ angle: float
+ currentH: int
+ hue: int

+ newXY(): void
+ platform(): void
+ rise(): boolean

Game

+ p: Platform[]
+ o: Object
+ pt: Particles
+ s = int
+ c: color
+ result: boolean
+ isFalling: boolean
+ overshot: boolean
+ oldp: Platform
+ dir: int
+ currentp: Platform
+ formerp: Platform
+ newp: Platform
+ n: int
+ dx1: float
+ dy1: float
+ counter: float
+ t0: float

+ setup(): void
+ draw(): void
+ drawP(): void
+ newP(): void
+ newP(int dir): void
+ moveCamera(): void
+ calcDistance(): void
+ updateXY(float dx, float dy): void
+ isOn(): boolean
+ copyP(): void
+ removeP(): void
+ keyPressed(): void
+ keyReleased(): void

Particles

+ a: Particle
+ b: Particle
+ c: Particle
+ d: Particle
+ e: Particle

+ particles(): void

Particle

+ x: float
+ y: float
+ v: float
+ dir: float
+ d: float
+ size: float
+ range: int
+ x0: int
+ y0: int

+ particle(): void
+ update(): Particle

Object

+ x: float
+ y: float
+ d: int
+ x0: int
+ y0: int
+ t: float
+ v: float
+ angle: float
+ g: float
+ vx: float
+ vy: float
+ alpha: float

+ object(): void
+ objectSetup(): boolean
+ launchUpdate(float t0, int dir): void
+ isOn(float xf, float yf): boolean
+ shadow(): void

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Game instructions:

1. Click START on the main menu to start a new game.
2. Hold down the spacebar to make the object jump to the next platform.
   a. When an object reaches the next platform, the score increases by 1.
   b. The longer the spacebar is being holded down, the further the object jumps.
   c. The goal is to get the highest score possible without dying.
3. Click RESTART on the death menu to return to the main menu.
4. Press Q to pause the game.
5. Click SCORE on the main menu to view your top 5 scores.