Building Dino Game

Requirements

- A dinosaur runs to the right, jumping over obstacles
  - Two types of obstacles: cacti and pterodactyls
- Press SPACE to jump
- Touching an obstacle leads to death
- Accumulate points continuously while alive

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Planning Entities

Entities	The Game	Cactus Obstacle	Pterodactyl Obstacle	Dino	The World
Actions	Initialize and start up all other entities	create, move, check collision, draw	Create, move, check collision, draw	Create, start a jump, move	Check all collisions, draw all entities, spawn new entities, move all entities
Properties		height, width, x + y pos, x speed, color(?)	height, width, x + y pos, x speed, color(?)	height, width, x + y pos, color, x + y speed, gravity	The dino, all the obstacles, current score

Entities into Objects

- Interfaces:
  - Obstacle
- Classes:
  - Game (static class with only main)
  - World
  - Dino
  - Cactus (implements Obstacle)
  - Pterodactyl (implements Obstacle)

See accompanying files for interface & initial class design

Other Big Decisions

Discrete or Continuous?

continuous, always scrolling + adding score

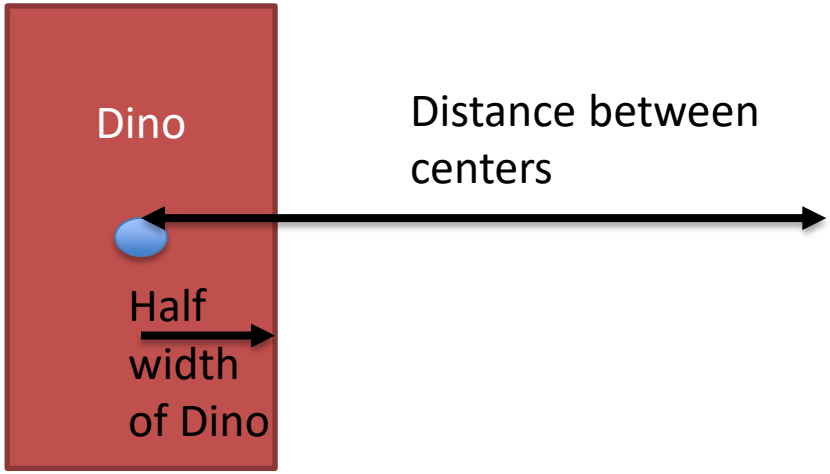
What Data Structures?

array or list of obstacles to dodge

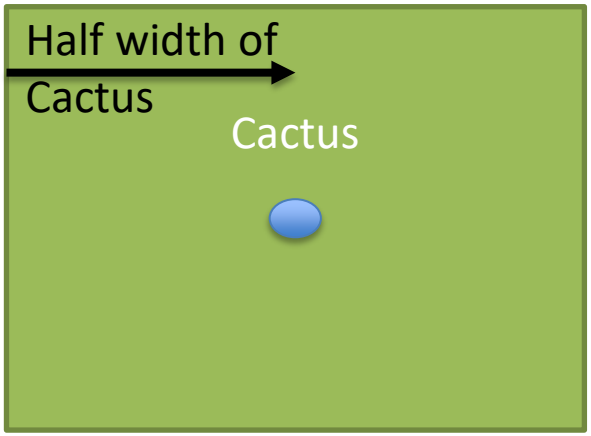
Ending Condition?

collision between dino and obstacle.

Checking Collisions: x overlap?

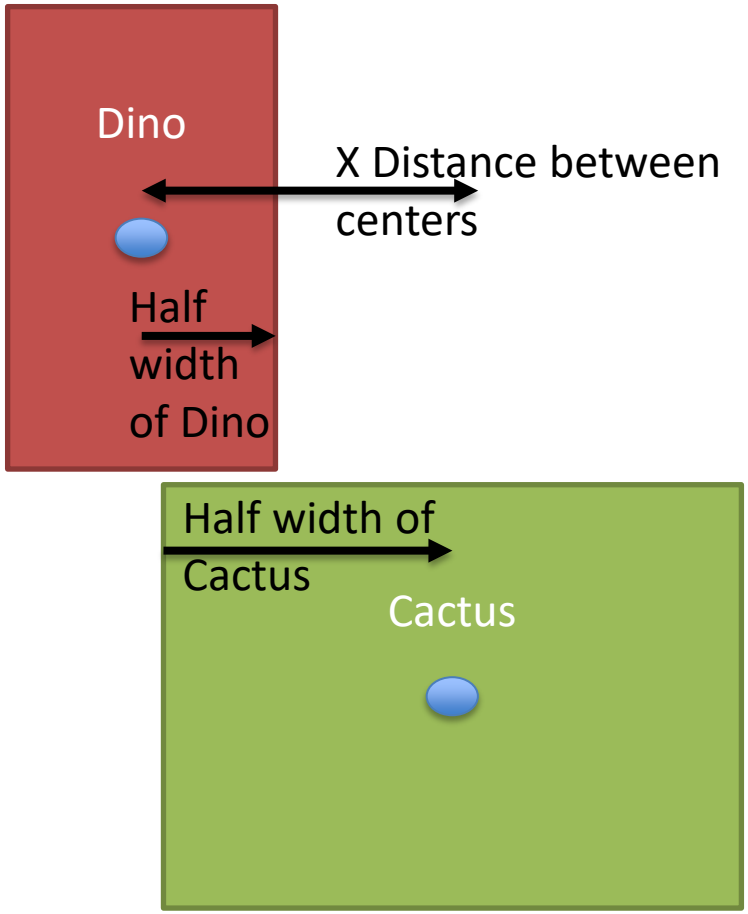


No overlap between the Dino and the Cactus!



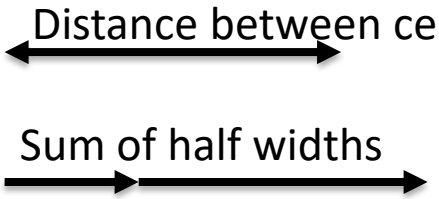
Checking Collisions: x overlap?

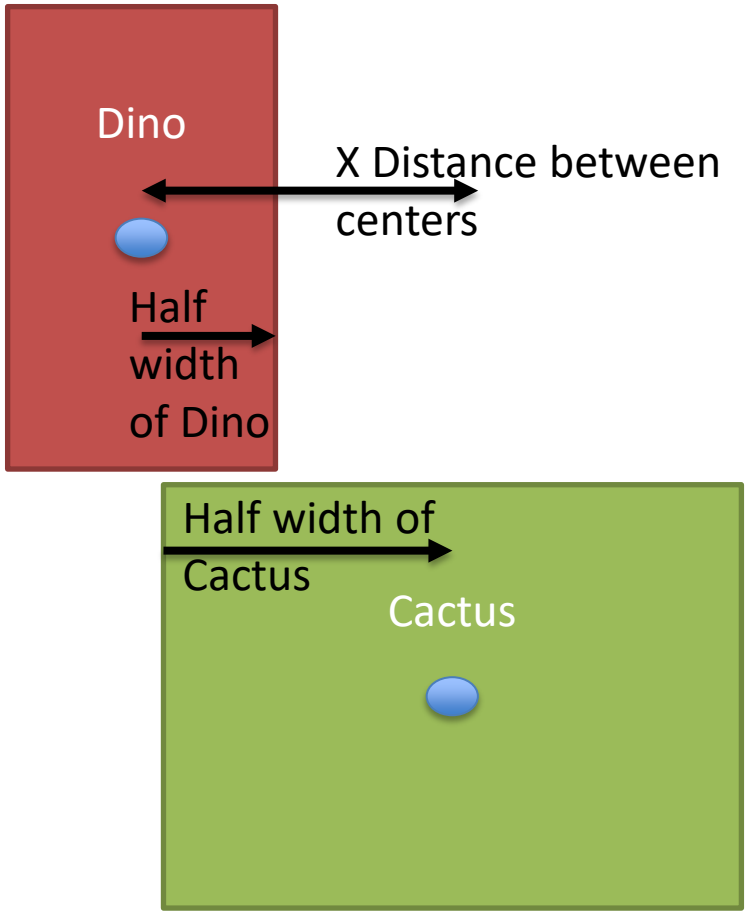
X overlap between the Dino and the Cactus!



Checking Collisions: x overlap?

X overlap between the Dino and the Cactus!

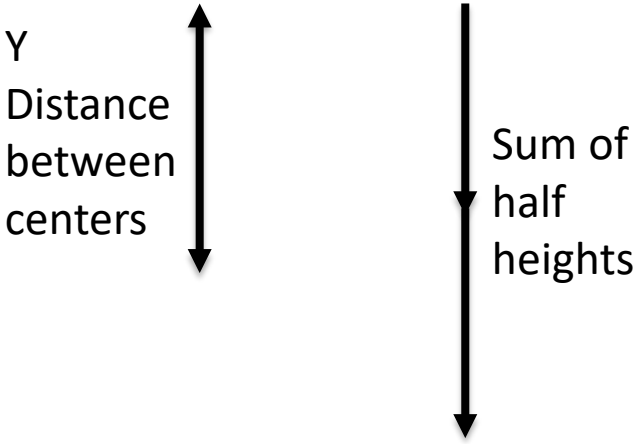


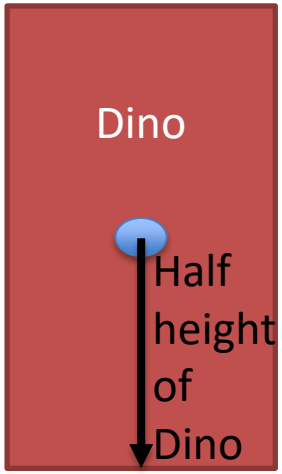


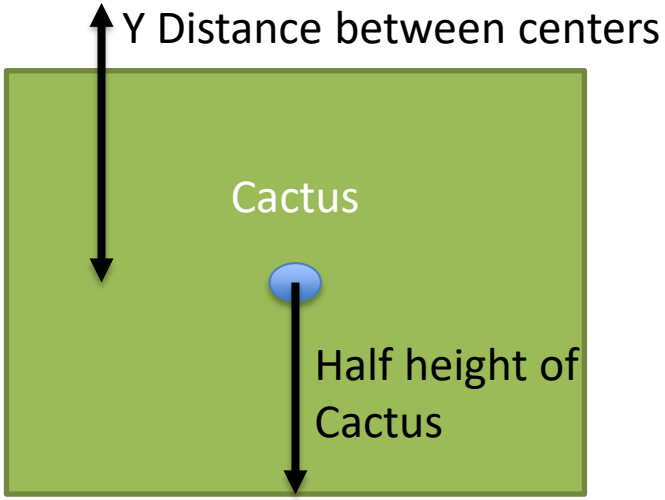
The rectangles overlap in the x dimension when the sum of their half widths is greater than the x distance between their center points.

Checking Collisions: y overlap?

Y overlap between the Dino and the Cactus!







The rectangles overlap in the y dimension when the sum of their half heights is greater than the y distance between their center points.

Collisions happen when there's overlap in the x and y dimensions