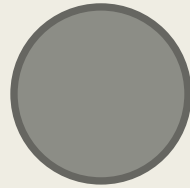


# BreakAway



Tyler Sulsenti and Sara Dos Santos

# Design

- Create a simple breakaway game that utilizes file I/O to create a high score sheet where the values are saved and updated.
- Breakaway is a 2D arcade-style game. It implements pong-style mechanics. The purpose of the game is to bounce a ball off a paddle and break as many blocks as possible without dropping the ball.

# How?

- Created Rectangle of boundaries for collision detection
  - Utilizing the `.intersects(Rectangle r)` method
- Used an `ArrayList<Block>` for the target blocks
  - Easier to create and manage. Utilize `.remove(element e)` method.
- Created an Array of `.txt` leaderboard scores and compared current score
  - Inserted and Shifted if appropriate
  - Re wrote `.txt` file with updated Array

# Problems

- Creating Menus
  - Ensuring that all elements are properly accounted for
- Collision Detection with 100 Blocks
  - Solved with a `.getBounds()` method that returned a Rectangle Object
- Creating a sorted leaderboard containing both scores and names
  - Two Arrays, sorted just before the leaderboard is shown

# Future Work

- Create a more complicated algorithm so that the bouncing angle is not always the same
  - Physics
- Create more levels
  - BOSS FIGHTS???
- Power up to slow down the ball

# Contributions

- Basic Breakaway game algorithm, Styling: Tyler
- Power Up algorithm, & Level up system, Styling: Sara
- Time spent – Total 25 Hours
- Total Lines of code – 1,557 in 8 .java files including java docs