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Features	
Milestone #1	
Pressing p key resets game	Draw ship
Generate obstacles	Animate obstacles
Create Game Over screen	
Milestone #2	
Movement keys drive the ship	Collision detector
Ship Health Display	Obstacle Collision Tracker
When health is 0, goes to "game over" screen	
Milestone #3	
Pick-up items	
Scoring	
Difficulty increase over time	

Game Description: Player ship has no abilities right at the beginning, but will be able to pick up items for either a heal or shield. Obstacles will only be moving in a straight line to the left. On the display, there will be a ship health bar at bottom; the health bar will be depleted by contact with obstacles and replenished by healing pickups. After the game is finished, the player's score will be displayed alongside the "game over" screen. Current planned features for Milestone 3 are: pick-up items (a heal item, a shield item, multiplier), scoring, and increase in game difficulty as the game progresses.

Proposed Methodology:
- The ship will start at a fixed point on the screen and be animated to move according to player input.
- The obstacles will be generated at a random height using the random number generator (RNG) and then be animated to move horizontally across the screen. Multiple obstacles on the screen at the same time will be created using a for loop and an obstacle generator function.
- Collisions will be detected by checking for overlap between certain areas in the sprites. Collisions with obstacles will deplete health, collisions with pick-ups will provide aid to the player.

- The game will end when the ship's health bar is completely depleted, at which point the player will be taken to a game over screen where their score is displayed.
- Score will be calculated based on the number of obstacles successfully evaded and the number of pick-ups collected.
- Milestone 3 Feature 1 (pick up items) will be implemented by using an RNG for their spawn location. To pick up an item, the ship must contact the item head on to obtain it. For the heal item, the health bar will simply increase an amount. For the shield item, the collision check function will check if the shield was obtained, therefore nulling the health damage and removing the shield. Lastly, for the multiplier item, every pickup results in a 10% increase in the total score.
- Game difficulty will increase after a certain amount of obstacles have passed ("collided" with the edge of the screen), which will result in more obstacles being spawned.

Fundamental Tasks:
- Check for keyboard input and update ship location.
- Update obstacle location.
- Check for various collisions (e.g., between ship and obstacles).
- Update other game state and "game over" screen
- Erase objects from the old position on the screen (already did in lab 9).
- Redraw objects in the new position on the screen.

Milestone #1:
- obstacles and ship moving across the screen
- Redrawing new obstacles as obstacles enter the screen
    - At least 3 obstacles
- Creating a "game-over" screen
- Making a p key press result in a game reset

Milestone #2:
- Movement keys work in driving ship, be sure ship can't move past edges of screen
- Collision detection, make sure all kinds of cases are detected like ship moving into an obstacle, or obstacle moving into a ship (and diff position of contact), etc
- A tracker of collisions with obstacles
- Ship remaining health display
- If too many collisions, result in "game over" screen

Milestone #3:
Possible features:
- Pick-up items (at least 2 types)
    - Heal, possibly different amounts for diff items
    - shield
- Scoring

3rd feature:
- Increase in difficulty as game progresses
- Have enemy obstacles shoot you
- Grazing

BONUS features (if have more time):
- A begin game screen

Implementing **at least 3 features** from given list:
- Different levels
- Increase in difficulty as game progresses
- Scoring system
- Pick-up items (at least 2 types)
- Enemy ships (some look different and move in "unnatural, difficult, or surprising pattens")
- Shoot obstacles/enemy ships, and/or they shoot back: ability to shoot done through another keystroke

- Grazing: if an obstacle grazes the ship you lose less health. This type of collision must be made obvious that it happened, which could be done by using diff colors for diff collisions

Lastly, need to make a video demo recording (around 5 mins, <= 8)