Assignment 2 - Requirements
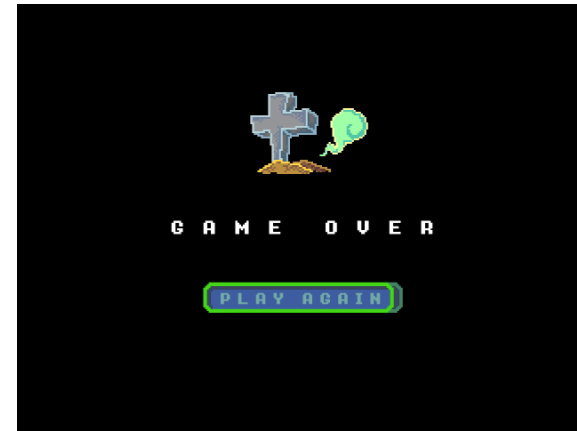
by TA Sam Wang
112-2

Assignment 2 (Due: 3/31 12pm)

Fork assignment here.

CLICK

GAME_START → CLICK → GAME_RUN → Health Depleted → GAME_LOSE
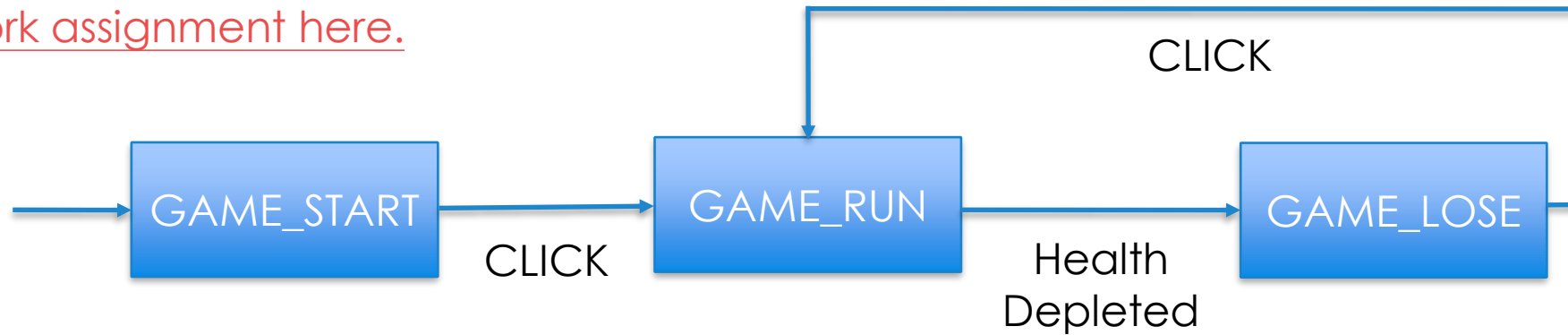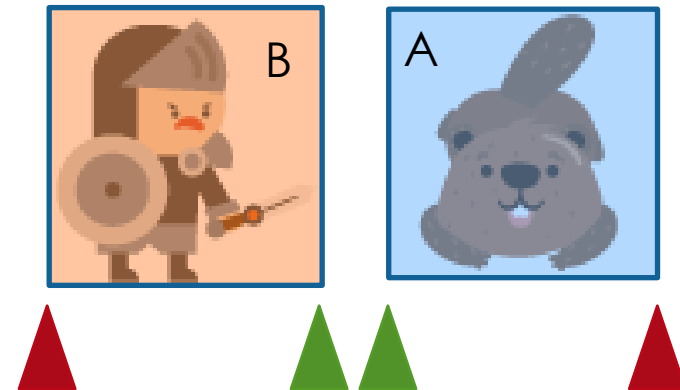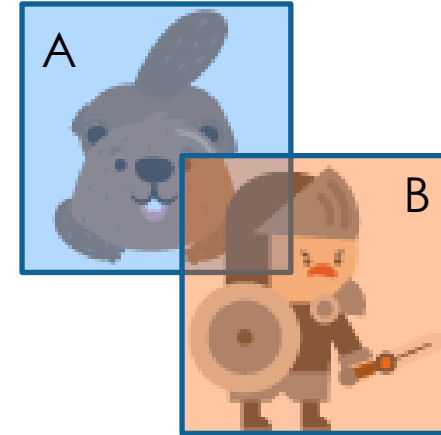
Requirements

- 1-star
  - Complete all requirements in assign1
  - Implement the game flow (GAME_START, GAME_RUN, GAME_LOSE), and ensure that each screen functions properly. We will use keys '1, 2, 3' to check the game state.
  - Player can move smoothly using the arrow keys and cannot move off-screen.
- 2-star
  - Display the health bar with a range of 0-100 and the length of the bar should be proportional to the health value.
  - The player loses 20 health points when hit by an enemy, and gains 10 health points when they collect a treasure.
  - The enemy or treasure will disappear once they collide with the player's spaceship. The enemy will then reappear on the left side of the screen, and the treasure will randomly appear at any point on the screen.
  Hint: use AABB collision detection algorithm
- 3-star
  - The enemy can only fly from left to right, but it will accelerate towards the player when the distance between them is less than 300 pixels.]
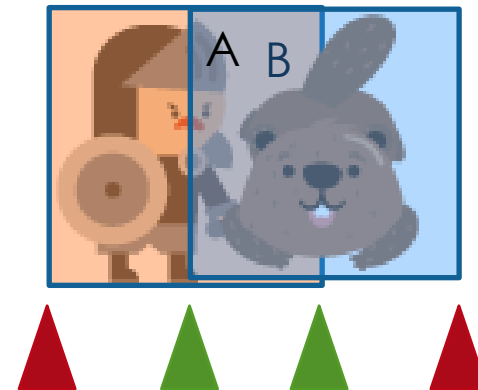 **Hint: dist()**

AABB Collision Detection

AABB (Axis-Aligned Bounding Boxes):

The algorithm checks four conditions

to determine whether the boxes intersect:

- A.left <= B.right ✗

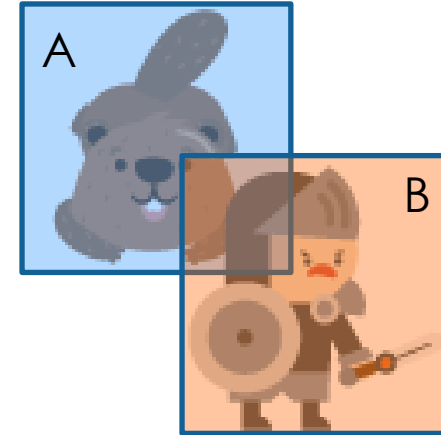- A.right >= B.left ◯

- A.top <= B.bottom

- A.bottom >= B.top

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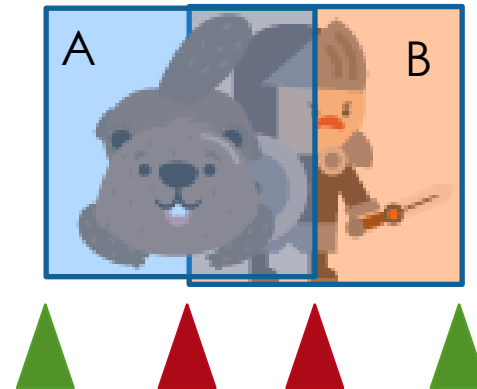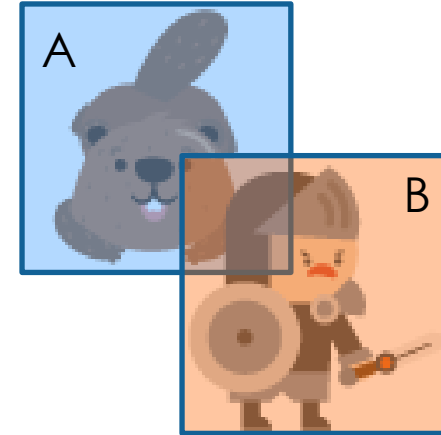- A.right >= B.left ○

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