

Name: \_\_\_\_\_

## Handling Keyboard Events (Chapter 3)

1. In class, you automatically moved the avatar one pixel the right at every iteration of the game loop. In this question, you will control movement through keyboard controls (using the `KEYDOWN` and `KEYUP` events). For all cases, ensure that the avatar “wraps around” the screen. You can use Listing 3.3 as a reference.

Use the file `game_key1.py` to add your programming logic.

- 10 (a) Add logic to the game loop so that pressing the right arrow moves the character to the right (`KEYDOWN`). The avatar should keep moving right until the key is released (`KEYUP`).
- 10 (b) Do the same for the left arrow, moving the avatar one pixel to the left. (In future lectures, we will discuss tackling frame rate issues so that that avatars move more smoothly).
- 15 (c) Add a second avatar, `Character Girl`, to the screen at location (300, 300). Use `A` (left) and `D` (right) to control this character.
- 10 (d) Add an easter egg to the game. When the user types the letter `h`, replace the `Character Girl` avatar with `Character Horn Girl`.

## Accepting User Input (Chapter 6)

2. In the last question, you investigated one method of keyboard control (`KEYDOWN` and `KEYUP` events), but it turns out that this style of event handling is more appropriate for single-shot (non-repeating) events, such as fire buttons (for example, firing a pistol). In this section, you will use the `pygame.key` module to more directly handle keyboard presses. This alternative technique is shown in Chapter 6 of the text, and uses `pygame.key.get_pressed()`.

For this question, create a file called `game_key2.py`.

- 20 (a) Modify your solution from the previous question to use `pygame.key.get_pressed()` instead of the `KEYDOWN` and `KEYUP` events mechanism.
- 15 (b) Use the same easter egg as before, but this time make the easter egg respond to `LCTRL + h`, which means that the user must hold down the left control key and the letter `h` simultaneously in order to change `Character Girl` to `Character Horn Girl`. **Hint:** See `key.get_mods` on p. 114 of the text.<sup>1</sup>

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<sup>1</sup>Also, see the documentation for Pygame keys: <http://www.pygame.org/docs/ref/key.html>.

Question	Points	Score
1	45	
2	35	
Total:	80	