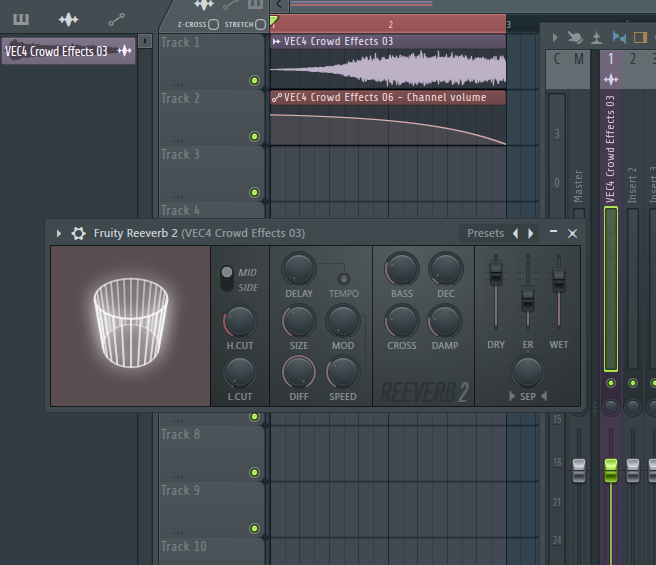
README:

The program that I created is essentially a simplified version of space invaders, coded in python. Upon running, the user is met with a welcome screen, where any key can be pressed to continue to the game. The objective of the game is to clear all of the entities on the screen by shooting projectiles at them from a spaceship. The user can move the spaceship left on right while remaining on the screen using left and right arrow keys. To shoot projectiles, the user simply presses the space bar or the up arrow. After all enemies have been cleared, the user moves onto level 2, in which the process is repeated for 20 enemies rather than 10. Users can compete against one another by using the on-screen timer in the top right of the screen, trying to clear the game in the fastest possible time.

PROJECT PLAN OUTLINE:

To start this project, I began by making basic movement with a spaceship that was to move left and right of the screen. I finished the basics by allotting images per the ship, background, and even enemies (though I haven’t considered how to do enemies yet). I then made classes for each major part of my game that I knew I would need to implement. This included a ship class, a projectile class, and an entity class. The first roadblock I hit was with projectiles. I was able to make one projectile and shoot it to the top of the screen, but I wasn’t able to shoot more. To fix this, I implemented a list of all projectiles, which I filled with projectiles derived from the projectile class I made. This allowed me to shoot many projectiles, as they were all being taken and replenished from the list. The next major roadblock was collision (pun intended). I tried various built in sprite collide and rect collide methods, but none of them responded. After all of these methods failed, I decided to make my own collide method. I used the physical logic of each sprites’ rectangles in order to do “manual collision” which worked flawlessly. The rest of the game came across smoothly, polished with a score system, a timer, enemy movement and homemade sound effects.

FILES:

* <https://spencer2124.files.wordpress.com/2014/06/background.png>
* <https://ak4.picdn.net/shutterstock/videos/1011355004/thumb/1.jpg>
* <https://media.alienwarearena.com/media/alien-1.png>
* <https://www.customwallgraphics.com/product_images/i/968/Space_Invaders_Alien_sticker__18521_zoom.png>
* <https://ya-webdesign.com/images/8-bit-spaceship-png-5.png>
* <https://www.marqafoods.com/media/catalog/product/cache/1/image/417x417/9df78eab33525d08d6e5fb8d27136e95/p/d/pdp_spritecranberry_12oz.png>
* <https://nyugamers.files.wordpress.com/2017/10/pic1.jpg?w=324&h=216>
* <http://pixelartmaker.com/art/e8ed82f9a9959c6.png>
* All music and sound effects were made in [FL Studio 20](https://www.image-line.com/flstudio/) (:
  + (Screenshots below)
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