Implementation log

Movement: Since I never done something like this (using images in a code) before and that made make the movement really challenging to move the gun. Making an image move with keyPressed was easy by its own but trying to make an image move was confusing at first so I tried using this at first:

```
class Lasergun {

PImage gun;

Lasergun() {

gun = loadImage ("Gun.png");

}

void display () {//draw gun

   image (gun, mouseX, mouseY);

 }
```

I used this method to see how the image would work, are they similar to our everyday code or are they more complicated. After I checked by adding the class and its details in my main class I saw it wasn't different from what I'm used to just a few extra things I which I used to create this code:

```
class Lasergun {

 PVector position;

 PImage gun;

 Lasergun() {

  position = new PVector (50, 380);

  gun = loadImage ("Gun.png");

 }

 void display() {

  image(gun, position.x, position.y);

}
```

```
  void displayLeft() {

    image(gun, position.x, position.y);

    position.x -=1;

  }

  void displayRight() {

    image(gun, position.x, position.y);

    position.x +=1;

  }

}
```

By typing in this code, I was able to make the gun move with the keys 'a' and 'd' in which how I solved that issue.

Velocity: When trying to make the array for the aliens/enemies I was using the array list method to make an array list of enemy aliens to destroy but one issue that I encountered was making the aliens move around but then I used the code from the week 9 train that we had as an example changing the method to make the enemies. But then I kept getting an error that said this code is null, so I had to change the way and only kept the code for one of the enemies:

```
class Aliens {

PImage ship1;

PVector   ship1Position;

PVector   ship1velocity;

Aliens (float y, float s) {

ship1Position = new PVector(width/2, y);

ship1velocity = new PVector(s, 0);

ship1 = loadImage("ship1.png");
```

```
}

 void move () {

   ship1Position.add(ship1velocity);

if ( (ship1Position.x + 50) >= width || ship1Position.x < 0) {

    ship1velocity.x = ship1velocity.x * -1;

  }

}

 void display () {


   image (ship1, ship1Position.x, ship1Position.y);

}

}
```

 Making it into one enemy it helped me out because I was able to figure out what was wrong with the code, so I fixed it most of the error was from my main class because of the but then I figured it out it was

because of a simple misspell which processing wasn't showing it to me:

```
for (int i = 5; i< aliens.length; i++) {

    aliens[i] = new Aliens (random (100, 300), random (0.5, 2));
```

This was the original all I had to do was turn that five into 0 and it would have worked.

Restarting: Restarting the game was the hardest part of this assignment because I tried everything to make the code work, but it wasn't working so I had to recode most of it at first it was:

```
If (key == 'e'){

for (int i = 0; i<5; i++) {//loop the array list of stars

    stars [i]. display();//display the stars array list

 }

p. display();//display planet
```

```
aliens.move();

aliens.display();

l. display();

c.display();
```

Basically, making it so if I press (e) draw everything so eventually I was able to fix it by making a a new function in setup

```
void setup() {

restart();

}

void restart() {


for (int i = 0; i<5; i++) {//loop the array list of stars

    stars[i] = new Stars();// assigning value to stars in the array

}


l = new Lasergun();//Lasergun is shown with l
```

```
    g = new Laser();

    c = new Crosshair();//Crosshair is shown with c

    t = new Title();//Title is shown with t

    y = new Youlose();

    w = new Youwin();

    p = new Planet();//Planet is showm with p


    // initialize the ships

    aliens.ship1alive = true;

    aliens.ship2alive = true;

    aliens.ship3alive = true;

    aliens.ship4alive = true;

    aliens.ship5alive = true;

}
```

By adding that one function I was able to fix my issue.