My project is a 2 dimensional boss fighting platformer. The program was made in scratch by using the coding blocks and testing it out. The objective of said game is for the cat to defeat the boss using his set of attacks versus the bosses set of attacks and win the game. In the game i added gravity, shooting fundamentals for both the players and the boss. Once the game starts you are automatically placed on a platform and need to escape the boss's attacks. The player has a health bar that depletes every time you get hit by the boss attacks. I unfortunately did not get to finish the game. The game is basically impossible to beat and is broken. The game has its ups and downs and in many ways can be improved.

2B

I ran into many very hard and time consuming obstacles while designing, testing and finishing the program. One of my first problems i ran into was early into the programing when i had to make the cat's health bar. One problem i had with the health bar was making it fill up and the deplete when coming into contact with a object shot by the boss. I also had a difficult time when trying to program the bosses health bar too. I did not really finish up the health aspect of the game. Another aspect of the game i had trouble programming was the cat firing the airplanes at the boss and them actually pointing towards him instead of a random direction. I also did not get to fully finish this with the bosses firing but did get some progress done with it.

```
when I receive message1 v

switch costume to costume2 v

change hp v by 1

move -1.5 steps

stamp

forever

if hp < 0 or hp = 0 then

clear

switch costume to costume3 v

when I receive message1 v

switch costume to costume2 v

change hp v by 1

move -1.5 steps

stamp

forever

if hp < 0 or hp = 0 then
```

This algorithm right here is really important to the game and the game's main character, the cat. This particular algorithm, shown above in the picture as part of the game, runs the cat's health and makes the health bar deplete whenever the cat gets hit by the boss's attacks. When the flag to start the program is hit it runs the code. The first blue block in the longest part of the algorithm is where the health bar will be show on the screen and then the block after that is the first costume that will be set by default when the game is first started. The blocks under that, particularly the blocks inside "repeat" are to fill up the health bar. The blocks further down will forever repeat as they are inside of the "forever" block which is a self explanatory block. The green filled in buttons details and changes and effects the health bar in different ways. In the "hp< 0" it is basically saying that if the health is low but above zero then switch the costume t costume 3 which displays the smallest amount of health or the "Hp=0" part which does the same thing.