

My Extension(s):

Clouds moving

I added a for loop to make my clouds move across the screen. I also used cameraPosX to make sure the cloud loops in perspective of the gameChar and not the game world.

Below is the code I used to achieve this

```
if(i_cloud.x_pos > cameraPosX + width){  
    i_cloud.x_pos = cameraPosX -20  
}  
}
```

Snowflakes

I created a snowflake function that allows for snowfall to happen in the game. I used various syntax such as update and display to get the snowflake to update its new position in the game.

Below is the function code of snowflakes that I added

```
function snowflake()  
{  
    fill(255);  
    // initialize coordinates  
    this.posX = 0;  
    this.posY = random(-50, 0);  
    this.initialangle = random(0, 2 * PI);  
    this.size = random(2, 5);  
  
    // snowflake radius  
    // chosen so the snowflakes are uniformly spread out in area  
    this.radius = sqrt(random(pow(width / 2, 2)));  
  
    this.update = function(time) {  
        // x position follows a circle  
        let w = 0.6; // angular speed  
        let angle = w * time + this.initialangle;  
        this.posX = width / 2 + this.radius * sin(angle);  
  
        // different size snowflakes fall at slightly different y speeds  
        this.posY += pow(this.size, 0.5);  
  
        // delete snowflake if past end of screen  
        if (this.posY > floorPos_y)  
        {  
            let index = snowflakes.indexOf(this);  
            snowflakes.splice(index, 1);  
        }  
    }  
}
```

```
    }  
    };  
  
    this.display = function() {  
        ellipse(this.posX, this.posY, this.size);  
    };  
}
```

I also implemented the use of fonts inside the game. I made it such that my gameOver and lives will have different cat themed fonts. I had to install fonts online and add them to the game.

Things I found difficult:

Initially my game had many bugs. My gameChar will be moving right continuously once it reaches flagPole and my gameChar will have an additional life even when its health= 0. It was very challenging to identify and rectify the problem as if I was to rectify one problem, another one will appear. I managed to solve this problem by making my gameChar respawn to the starting location and showing the gameOver screen there. This helped me solve the issues within the code and made the game playable without any bugs.

Skills I learnt:

While working on this project, I encountered many roadblocks and challenges, where my code will not function properly or unexplainable bugs will cause my game to not work properly. This forced me to try my very best to understand how the code works. Most of the time, the console will not show where the error is in your code and it is up to you to figure it out yourself. Having scanned my code thousands of time, I was able to understand the code better and think of creative solutions to solve the problem, such as when my gameChar will not stop moving when it reached the flagpole, i decided to spawn the gameChar to cameraPosX = 0 and disable keypressed, which helped me solve the issue.