

INSTRUCTIONS:

Goal of the Project:

In Class 31, you have learned the concept of arrays.

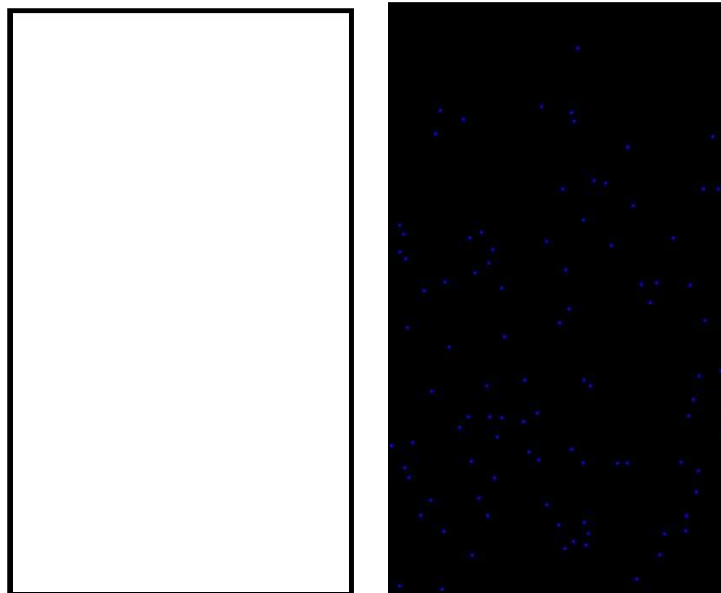
In this project, you will be implementing some of those concepts to create a rainy day effect.

Main Goal	<ul style="list-style-type: none">You will create a canvas and write code to create rain drops.
Additional Goal 1	<ul style="list-style-type: none">Add code for creating an umbrella.
Additional Goal 2	<ul style="list-style-type: none">Add thunder effects to complete a dark rainy night.

Story:

You are working with a team of developers who create short animated films. As a part of a scene for a short film, you have been assigned to create a dark rainy night.

See a video of this in action [here](#).



***This is just for your reference. We expect you to apply your own creativity in the project.**

Getting Started:

1. Use the [template](#) to get started.
2. **Unzip** the folder.
3. Rename the unzipped folder as **Project 31**.
4. **Import** this folder **into VS Code**.
5. Download images required in this project from [here](#).
6. Start editing your code in **sketch.js**.

Specific Tasks to Achieve the Main Goal:

1. In the blank project in sketch.js, create a canvas of an appropriate size for your project.
2. Create a class related to the rainfall - Drops.js.
3. Within the drops class create the following:
 - **Constructor** that would take x and y position for drops
 - **A Circular matter body** for the drops
 - An **update function** to reposition the drops whenever they cross the canvas bottom.
 - A **function to draw an ellipse** at drops' position so that they are displayed.
4. Using a **for loop** creates objects of drops class which will be pushed to an array using the **push()** function.

```
var maxDrops=100;
```

```
for(var i=0; i<maxDrops; i++){  
  drops.push(new createDrop(random(0,400), random(0,400)));  
}
```

5. Display the drops in the **draw()** function by calling their respective functions.
6. Make sure the project works before you submit it.

Submitting the Project:

1. **Upload** your completed project to your own github account.
2. Enable **Github** pages for the repository.
3. Copy and paste the link to the github pages in the Student Dashboard against the correct class number.

Hints for the Main Goal:

1. Remember to experiment with friction property while creating the drops.

```
friction: 0.1,
```

2. Use **Matter.Body.setPosition()** function when you reposition the drops.

```
if(this.rain.position.y > height){  
    Matter.Body.setPosition(this.rain, {x:random(0,400), y:random(0,400)})  
}
```

3. Use the **modulo operator %** when you want drops only on a frameCount which is a multiple of some number.

Additional Goal 1:

Here you have to create a man holding an umbrella in a dark rainy night.



Specific Tasks to Achieve Additional Goal 1:

1. Include the following in the umbrella class:
 - **Constructor** to take the x and y position for the object.
 - **A circular matter body** for the umbrella.
 - Load an image of a boy with an umbrella.
 - A **function to display the body** where you would draw the image at the body's position using the **image()** function.
2. Create an object for the umbrella class in the **setup()** function.
3. Display the umbrella as well as display and update.
4. Make sure the project works before you submit it.

***SAVE** all the changes made to the project and **SUBMIT** the shareable link in the Student Dashboard Projects panel against the correct class number.

Hints for the Additional Goal 1:

1. Umbrella should be created as a static object.

Additional Goal 2:

Create thunder effects to finish the dark rainy night animation.



Specific Tasks to Achieve Additional Goal 2:

1. To create a random thunder effect in your project you can give random animation on the sprite using a **switch case**.
 - As the thunder only lasts for a short while, remove it from the canvas after 10-12 frames.
2. Make sure the project works before you submit it.

***SAVE** all the changes made to the project and **SUBMIT** the shareable link in the Student Dashboard Projects panel against the correct class number.

Hints for the Additional Goal 1:

1. You can use the below code to create thunder effect:

```
rand = Math.round(random(1,4));
if(frameCount%80===0){
  thunderCreatedFrame=frameCount;
  thunder = createSprite(random(10,370), random(10,30), 10, 10);
  switch(rand){
    case 1: thunder.addImage(thunder1);
    break;
    case 2: thunder.addImage(thunder2);
    break;
    default: break;
  }
  thunder.scale = random(0.3,0.6)
}
```

REMEMBER.. Not giving up is the key for a successful developer.

After submitting your project your teacher will send you feedback on your work.

PROFESSIONAL

BATMAN BEGINS



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