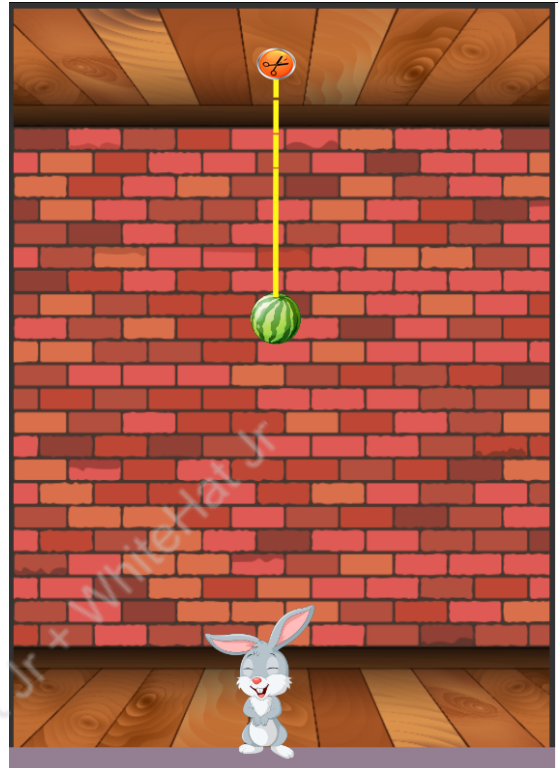


Collision detection and bunny Animation



What is our GOAL for this MODULE?

Write the code to detect the collision of the fruit with the bunny and add animations for the bunny sprite.

What did we ACHIEVE in the class TODAY?

- Load the animation in the preload() function.
- Added animation to our bunny sprite and set the animation speed.
- Write an algorithm to detect the collision.

Which CONCEPTS/ CODING BLOCKS did we cover today?

- The addAnimation() function.
- How to add animations for the bunny sprite.
- Frame delay.
- Algorithm to detect the collision.

How did we DO the activities?

1. In the preload() function assign the loadAnimation() function to the blink and eat variable and pass the corresponding images.

```
var blink,eat;

function preload()
{
    bg_img = loadImage('assets/background.jpg');
    food = loadImage('assets/melon.png');
    rabbit = loadImage('assets/Rabbit-01.png');

    blink = loadAnimation("assets/blink_1.png", "assets/blink_2.png",
    "assets/blink_3.png");
    eat = loadAnimation("assets/eat_0.png" , "assets/eat_1.png", "ass
ets/eat_2.png", "assets/eat_3.png", "assets/eat_4.png")

    blink.playing = true;
    eat.playing = true;
    eat.looping = false;
}
```

2. Set the speed of the animation.

```
function setup() {
    createCanvas(500,700);
    frameRate(80);
    engine = Engine.create();
    world = engine.world;

    blink.frameDelay = 20;
    eat.frameDelay = 20;
    bunny = createSprite(230,620,100,100);
    bunny.scale = 0.2;

    bunny.addAnimation('blinking',blink);
    bunny.addAnimation('eating',eat);
    bunny.changeAnimation('blinking');

    button = createImg('assets/cut_btn.png');
    button.position(220,30);
    button.size(50,50);
    button.mouseClicked(drop);

    ground = new Ground(200,690,600,20);
    rope = new Rope(6,{x:245,y:30});
```

3. Write an algorithm to detect the collision.

```
function collide(body,sprite)
{
    if(body!=null)
    {
        var d = dist(body.position.x,body.position.y,
        sprite.position.x,sprite.position.y);
        if(d<=80)
        {
            World.remove(engine.world,fruit);
            fruit = null;
            return true;
        }
        else{
            return false;
        }
    }
}
```

4. Detect the collision with the ground, if the fruit falls on the ground not colliding with the bunny. Then we will play the sad animation.

```
function draw()
{
    background(51);
    image(bg_img,width/2,height/2,490,690);

    if(fruit!=null){
        image(food,fruit.position.x,fruit.position.y,70,70);
    }

    rope.show();
    Engine.update(engine);
    ground.show();

    if(collide(fruit,bunny)==true)
    {
        bunny.changeAnimation('eating');
    }

    if(collide(fruit,ground.body)==true )
    {
        bunny.changeAnimation('crying');
    }

    drawSprites();
}
```

What's next?

In the next class, we will add an air balloon that pushes the fruit in a direction, and we will also add multiple ropes to hold the fruit, where the user has to cut the rope in such a way that the fruit falls directly on the bunny.

WhiteHat Jr + WhiteHat Jr + WhiteHat Jr