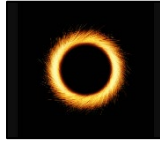
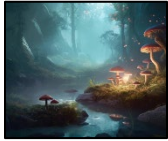


Ishan Witanachchi

Completed



Originals



```
# Name - Ishan Witanachchi
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```
# Date - 10/18/2023
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```
def collage():
    pictureOld = getMediaPath("mushroomforest.png")
    picture = makePicture(pictureOld)
    width = getWidth(picture)
    height = getHeight(picture)
    barHeight = height / 5
    newPicture = makeEmptyPicture(width, height, black)
    bnwPosterize(picture, newPicture, width, 0, barHeight) # - Creates the first horizontal bar/"dimension"
    tintColor(picture, newPicture, width, barHeight, barHeight*2) # - Creates the second horizontal bar/"dimension"
    normal(picture, newPicture, width, barHeight*2, barHeight*3) # - Creates the third horizontal bar/"dimension"
    negative(picture, newPicture, width, barHeight*3, barHeight*4) # - Creates the fourth horizontal bar/"dimension"
    reverse(picture, newPicture, width, barHeight*4, barHeight*5) # - Creates the fifth horizontal bar/"dimension"
    imageDarken(newPicture) # - Darkens the image
    simpleBlur(newPicture) # - Blurs the image
    pictureTwoOld = getMediaPath("portal.png")
    pictureTwo = makePicture(pictureTwoOld)
    chromakey(pictureTwo, newPicture, 14) # - Makes the "newPicture" a background for the portal image
    pictureThreeOld = getMediaPath("signature.png")
    pictureThree = makePicture(pictureThreeOld)
    chromakeySig(pictureTwo, pictureThree, 500, 463, black)
    explore(pictureTwo)

def bnwPosterize(picture, new_picture, height, start, stop):
    for x in range(0, height):
        for y in range(start, stop):
            pixel = getPixel(picture, x, y)
            newPixel = getPixel(new_picture, x, y)
            r = getRed(pixel)
            g = getGreen(pixel)
            b = getBlue(pixel)
            luminance = (r+g+b)/3
```

```

    if luminance < 50:
        setColor(newPixel,black)
    if luminance >= 50 and luminance <= 165:
        setColor(newPixel,gray)
    else:
        setColor(newPixel,white)

def tintColor(picture, new_picture, height, start, stop):
    for x in range(0, height):
        for y in range(start,stop):
            pixel = getPixel(picture, x, y)
            newPixel = getPixel(new_picture, x, y)
            value = getRed(pixel)
            setRed(newPixel, value * 1.5)

def normal(picture, new_picture, height, start, stop):
    for x in range(0, height):
        for y in range(start,stop):
            pixel = getPixel(picture, x, y)
            newPixel = getPixel(new_picture, x, y)
            norm = getColor(pixel)
            setColor(newPixel,norm)

def negative(picture, new_picture, height, start, stop):
    for x in range(0, height):
        for y in range(start,stop):
            pixel = getPixel(picture, x, y)
            newPixel = getPixel(new_picture, x, y)
            r = getRed(pixel)
            g = getGreen(pixel)
            b = getBlue(pixel)
            neg = makeColor(255 - r, 255 - g, 255 - b)
            setColor(newPixel,neg)

def reverse(picture, new_picture, height, start, stop):
    for x in range(0, height):
        for y in range(start,stop):
            pixel = getPixel(picture, x, y)
            width = getWidth(picture)
            revPixel = getPixel(picture, width - x - 1, y)
            newPixel = getPixel(new_picture, x, y)
            reflectPoint = width/2
            if x >= reflectPoint:
                pix = getColor(revPixel)
                setColor(newPixel,pix)

```

```

    else:
        pix = getColor(pixel)
        setColor(newPixel,pix)

def imageDarken(picture):
    for p in getPixels(picture):
        x = getX(p)
        color = getColor(p)
        setColor(p,makeDarker(color))

def simpleBlur(picture):
    target = duplicatePicture(picture)
    for x in range(1, getWidth(picture)-1):
        for y in range(1, getHeight(picture)-1):
            top = getPixel(picture,x,y-1)
            left = getPixel(picture,x-1,y)
            bottom = getPixel(picture,x,y+1)
            right = getPixel(picture,x+1,y)
            center = getPixel(picture,x,y)
            newRed=(getRed(top)+ getRed(left) + getRed(bottom) + getRed(right) + getRed(center))/5
            newGreen=(getGreen(top) + getGreen(left) +
            getGreen(bottom)+getGreen(right)+getGreen(center))/5
            newBlue=(getBlue(top) + getBlue(left) + getBlue(bottom) + getBlue(right)+ getBlue(center))/5
            setColor(center, makeColor(newRed, newGreen, newBlue))

def chromakey(picture,background, value):
    for p in getPixels(picture):
        x = getX(p)
        y = getY(p)
        if(getRed(p) <= value and getGreen(p) <= value and getBlue(p) <= value):
            bgpx = getPixel(background,x,y)
            bgcol = getColor(bgpx)
            setColor(p,bgcol)

def chromakeySig(picture,sig,toX,toY,color):
    startY = toY
    for x in range(0, getWidth(sig)):
        toY = startY
        for y in range(0, getHeight(sig)):
            pixel = getPixel(sig,x,y)
            if(getRed(pixel) < 242 and getGreen(pixel) < 242 and getBlue(pixel) < 242):
                setColor(getPixel(picture,toX,toY), color)
            toY = toY + 1
        toX = toX + 1
    return picture

```