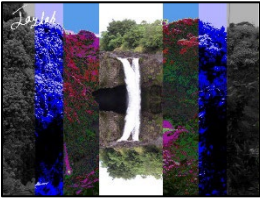


Jaylah Lewis

Completed

Originals



```
#Jaylah Lewis
```

```
#3/13/2023
```

```
def collage():
```

```
    picture = makePicture(getMediaPath("waterfall.jpg"))
    grayScale(picture, 0, 80)
    darker(picture, 0, 80)
    posterize2(picture, 80, 150)
    posterize(picture, 150, 240)
    makeSunset(picture, 80, 150)
    mirrorHorizontal(picture, 240, 400)
    posterize(picture, 400, 489)
    posterize3(picture, 489, 559)
    makeSunset(picture, 489, 559)
    grayScale(picture, 559, 639)
    darker(picture, 559, 639)
    signature=makePicture(getMediaPath("signature.jpg"))
    sign(signature, picture, 0, 0)
    repaint(picture)
```

```
def grayScale(picture, startX, endX):
```

```
    for x in range(startX, endX):
        for y in range(0, getHeight(picture)):
            p = getPixel(picture, x, y)
            intensity = (getRed(p) + getBlue(p) + getGreen(p)) / 3
            setColor(p, makeColor(intensity, intensity, intensity))
```

```
def posterize2(picture, startX, endX):
```

```
    for x in range(startX, endX):
        for y in range(0, getHeight(picture)):
            px = getPixel(picture, x, y)
            r = getRed(px)
            g = getGreen(px)
            b = getBlue(px)
            luminance = (r+g+b)/3
            if luminance < 64:
                setColor(px, black)
            elif luminance > 120:
                setColor(px, white)
            else:
                setColor(px, blue)
```

```
def posterize(picture, startX, endX):
```

```
    for x in range(startX, endX):
        for y in range(0, getHeight(picture)):
            px = getPixel(picture, x, y)
```

```

red = getRed(px)
green = getGreen(px)
blue = getBlue(px)

if(green > 60):
    setGreen(px,25)
if(green > 78 and green < 100):
    setGreen(px,88)
if(green > 115 and green < 183):
    setGreen(px,156)
if(green > 223 and green < 247):
    setGreen(px,233)

if(blue > 60):
    setBlue(px,25)
if(blue > 78 and blue < 100):
    setBlue(px,88)
if(blue > 115 and blue < 183):
    setBlue(px,156)
if(blue > 223 and blue < 247):
    setBlue(px,233)

if(red > 60):
    setRed(px,25)
if(red > 78 and red < 100):
    setRed(px,88)
if(red > 115 and red < 183):
    setRed(px,156)
if(red > 223 and red < 247):
    setRed(px,233)

def makeSunset (picture, startX, endX):
    for x in range (startX, endX):
        for y in range (0, getHeight (picture)):
            px = getPixel (picture, x, y)
            value = getGreen (px)
            setGreen (px, value*0.7)
            value = getRed (px)
            setRed (px, value*0.7)

def mirrorHorizontal (picture, startX, endX):
    mirrorPoint = getHeight (picture) / 2
    height = getHeight (picture)
    for x in range (startX, endX):
        for y in range (0, mirrorPoint):
            topPixel = getPixel (picture, x, y)
            bottomPixel = getPixel (picture, x, height - y - 1)
            color = getColor (topPixel)
            setColor (bottomPixel, color)

def posterize3 (picture, startX, endX):
    for x in range (startX, endX):
        for y in range (0, getHeight (picture)):
            px = getPixel (picture, x, y)
            r = getRed (px)
            g = getGreen (px)
            b = getBlue (px)
            luminance = (r+g+b) / 3
            if luminance < 64:
                setColor (px, black)

```

```

elif luminance > 120:
    setColor(px,white)
else:
    setColor(px,blue)

def darker(picture,startX,endX):
    for x in range(startX,endX):
        for y in range(0,getHeight(picture)):
            px = getPixel(picture,x,y)
            color = getColor(px)
            color = makeDarker(color)
            setColor(px,color)

def sign(picture,picture2,newX,newY):
    startX = newX
    for x in range(0,getWidth(picture)):
        startY = newY
        for y in range(0,getHeight(picture)):
            opx = getPixel(picture,x,y)
            color = getColor(opx)
            if distance(color,blue)< 200:
                px = getPixel(picture2,int(startX),int(startY))
                setColor(px,white)
            startY = startY + 1
        startX = startX + 1

```