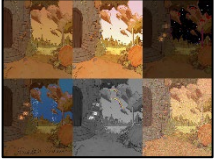


Hunter Willis

Completed



Originals



```
#Hunter Willis 3/6/23
```

```
def collage():
```

```
    #size images,copies image, puts on canvas
```

```
    pic_in = makePicture(getMediaPath("thundertree.jpg"))
```

```
    signature = makePicture(getMediaPath("signature.png"))
```

```
    small_picture = makeEmptyPicture(int(getWidth(pic_in)/3.5)+1,int(getHeight(pic_in)/3)+1)
```

```
    smaller_pic = makeEmptyPicture(getWidth(small_picture)/3,getHeight(small_picture)/2)
```

```
    pic2 = makeEmptyPicture(getWidth(smaller_pic),getHeight(smaller_pic))
```

```
    pic3 = makeEmptyPicture(getWidth(smaller_pic),getHeight(smaller_pic))
```

```
    pic4 = makeEmptyPicture(getWidth(smaller_pic),getHeight(smaller_pic))
```

```
    pic5 = makeEmptyPicture(getWidth(smaller_pic),getHeight(smaller_pic))
```

```
    pic6 = makeEmptyPicture(getWidth(smaller_pic),getHeight(smaller_pic))
```

```
    canvas = makeEmptyPicture(942,706)
```

```
    scaleDown(pic_in,small_picture)
```

```
    scaleDown2(small_picture,smaller_pic)
```

```
    copy(smaller_pic,pic2)
```

```
    copy(smaller_pic,pic3)
```

```
    copy(smaller_pic,pic4)
```

```
    copy(smaller_pic,pic5)
```

```
    copy(smaller_pic,pic6)
```

```
    explore(smaller_pic)
```

```
    quad1(smaller_pic,canvas)
```

```
    quad2(pic2,canvas)
```

```
    quad3(pic3,canvas)
```

```
    quad4(pic4,canvas)
```

```
    quad5(pic5,canvas)
```

```
    quad6(pic6,canvas)
```

```
    writing(signature,canvas)
```

```
    explore(canvas)
```

```
#Makes image smaller
```

```
def scaleDown(pic_in,small_picture):
```

```
    sourceX = 0
```

```
    for targetX in range(0,int(getWidth(pic_in)/3.5)):
```

```
        sourceY = 0
```

```
        for targetY in range(0,int(getHeight(pic_in)/3)):
```

```
            color = getColor(getPixel(pic_in,sourceX,sourceY))
```

```
            setColor(getPixel(small_picture,targetX,targetY),color)
```

```
            sourceY = int(sourceY + 3)
```

```
        sourceX = int(sourceX + 3.5)
```

```
def scaleDown2(pic_in,small_picture):
```

```
    sourceX = 0
```

```
    for targetX in range(0,int(getWidth(pic_in)/3)):
```

```
        sourceY = 0
```

```
        for targetY in range(0,int(getHeight(pic_in)/2)):
```

```
            color = getColor(getPixel(pic_in,sourceX,sourceY))
```

```

        setColor(getPixel(smaller_picture, targetX, targetY), color)
        sourceY = int(sourceY + 2)
        sourceX = int(sourceX + 3)

#copies images
def copy(pic, otherPic):
    sourceX = 0
    for targetX in range(0, getWidth(pic)):
        sourceY = 0
        for targetY in range(0, getHeight(pic)):
            color = getColor(getPixel(pic, sourceX, sourceY))
            setColor(getPixel(otherPic, targetX, targetY), color)
            sourceY = sourceY + 1
        sourceX = sourceX + 1

#modifies and places images on separate quadrants of canvas
def quad1(smaller_picture, canvas):
    targetX = 0
    for sourceX in range(0, getWidth(smaller_picture)):
        targetY = 0
        for sourceY in range(0, getHeight(smaller_picture)):
            color = getColor(getPixel(smaller_picture, sourceX, sourceY))
            setColor(getPixel(canvas, targetX, targetY), color)
            targetY = targetY + 1
        targetX = targetX + 1

def quad2(pic2, canvas):
    SunnyDay(pic2)
    targetX = getWidth(canvas)/3
    for sourceX in range(0, getWidth(pic2)):
        targetY = 0
        for sourceY in range(0, getHeight(pic2)):
            color = getColor(getPixel(pic2, sourceX, sourceY))
            setColor(getPixel(canvas, targetX, targetY), color)
            targetY = targetY + 1
        targetX = targetX + 1

def quad3(pic3, canvas):
    darkNight(pic3)
    lanterns(pic3)
    targetX = 2*getWidth(canvas)/3
    for sourceX in range(0, getWidth(pic3)):
        targetY = 0
        for sourceY in range(0, getHeight(pic3)):
            color = getColor(getPixel(pic3, sourceX, sourceY))
            setColor(getPixel(canvas, targetX, targetY), color)
            targetY = targetY + 1
        targetX = targetX + 1

def quad4(pic4, canvas):
    StormsAComin(pic4)
    lanterns(pic4)
    Rain(pic4)
    targetX = 0
    for sourceX in range(0, getWidth(pic4)):
        targetY = getHeight(canvas)/2
        for sourceY in range(0, getHeight(pic4)):
            color = getColor(getPixel(pic4, sourceX, sourceY))
            setColor(getPixel(canvas, targetX, targetY), color)
            targetY = targetY + 1

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```

    targetX = targetX + 1

def quad5(pic5, canvas):
    NotInKansasAnymore(pic5)
    lanterns(pic5)
    targetX = getWidth(canvas) / 3
    for sourceX in range(0, getWidth(pic5)):
        targetY = getHeight(canvas) / 2
        for sourceY in range(0, getHeight(pic5)):
            color = getColor(getPixel(pic5, sourceX, sourceY))
            setColor(getPixel(canvas, targetX, targetY), color)
            targetY = targetY + 1
        targetX = targetX + 1

def quad6(pic6, canvas):
    ASpoonFullOfSugar(pic6)
    targetX = 2 * getWidth(canvas) / 3
    for sourceX in range(0, getWidth(pic6)):
        targetY = getHeight(canvas) / 2
        for sourceY in range(0, getHeight(pic6)):
            color = getColor(getPixel(pic6, sourceX, sourceY))
            setColor(getPixel(canvas, targetX, targetY), color)
            targetY = targetY + 1
        targetX = targetX + 1

def writing(signature, canvas):
    targetX = 0
    for sourceX in range(0, getWidth(signature)):
        targetY = getHeight(canvas) - 100
        for sourceY in range(0, getHeight(signature)):
            color = getColor(getPixel(signature, sourceX, sourceY))
            if distance(color, black) < 70:
                setColor(getPixel(canvas, targetX, targetY), color)
            targetY = targetY + 1
        targetX = targetX + 1

#makes image brighter and makes sky brighter colors
def SunnyDay(pic):
    for x in range(118, getWidth(pic)):
        for y in range(0, 210):
            p = getPixel(pic, x, y)
            if getBlue(p) > 75 and getBlue(p) < 92:
                setBlue(p, getBlue(p) + 70)
            if getRed(p) < 200 and getRed(p) > 184:
                setRed(p, getRed(p) - 20)
            if getGreen(p) > 120 and getGreen(p) < 160:
                setGreen(p, getGreen(p) + 20)
    for x in range(0, getWidth(pic)):
        for y in range(0, getHeight(pic)):
            p = getPixel(pic, x, y)
            setColor(p, makeLighter(getColor(p)))
    return(pic)

#creates dark night by darkening picture and creates night sky
def darkNight(pic):
    import random
    for x in range(0, getWidth(pic)):
        for y in range(0, getHeight(pic)):
            p = getPixel(pic, x, y)
            setColor(p, makeDarker(makeDarker((getColor(p))))))

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for x in range(118, getWidth(pic)):
    for y in range(0,210):
        p = getPixel(pic,x,y)
        if getBlue(p) > 36 and getBlue(p) < 41:
            setBlue(p, getBlue(p) *0)
        if getRed(p) <96 and getRed(p) > 89 :
            setRed(p, getRed(p) * 0)
        if getGreen(p) >57 and getGreen(p) < 77:
            setGreen(p, getGreen(p) *0)
for x in range(118, getWidth(pic), 3):
    for y in range(0,210,5):
        p = getPixel(pic,x,y)
        if distance(black,getColor(p))<5:
            value = random.uniform(0,1)
            if value < 0.15:
                value = random.uniform(0,1)
                if value <= 0.02:
                    chartreuse = makeColor(127,255,0)
                    setColor(p,chartreuse)
                if value > 0.02 and value < 0.22:
                    setColor(p,yellow)
                if value >= 0.22 and value <= 0.63:
                    setColor(p,white)
                if value > 0.63 and value < 0.86:
                    setColor(p,red)
                if value >= 0.86:
                    setColor(p,blue)

#lights lanterns on image
def lanterns(pic):
    #first lighting
    candleLight = makeColor(255,217,102)
    for x in range(75,92):
        for y in range(170,184):
            p = getPixel(pic,x,y)
            setColor(p,makeLighter(makeLighter((getColor(p))))))
    for x in range(93,109):
        for y in range(152,165):
            p = getPixel(pic,x,y)
            setColor(p,makeLighter(makeLighter(getColor(p))))
    for x in range(100,116):
        for y in range(112,126):
            p = getPixel(pic,x,y)
            setColor(p,makeLighter(getColor(p)))
    #second lighting
    for x in range(67,100):
        for y in range(166,187):
            p = getPixel(pic,x,y)
            setColor(p,makeLighter(getColor(p)))
    for x in range(85,118):
        for y in range(149,167):
            p = getPixel(pic,x,y)
            setColor(p,makeLighter(getColor(p)))
    for x in range(90,125):
        for y in range(108,128):
            p = getPixel(pic,x,y)
            setColor(p,makeLighter(getColor(p)))
    #candle flame
    for x in range(82,85):
        for y in range(176,178):

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    p = getPixel(pic,x,y)
    setColor(p,candleLight)
for x in range(100,103):
    for y in range(157,159):
        p = getPixel(pic,x,y)
        setColor(p,candleLight)
for x in range(108,110):
    for y in range(117,120):
        p = getPixel(pic,x,y)
        setColor(p,candleLight)

#makes sky look stormy
def StormsAComin(pic):
    for x in range(118, getWidth(pic)):
        for y in range(0,210):
            p = getPixel(pic,x,y)
            if getBlue(p) > 75 and getBlue(p) < 92:
                setBlue(p, 255-getBlue(p))
            if getRed(p) <200 and getRed(p) > 184:
                setRed(p, 255-getRed(p))
            if getGreen(p) >120 and getGreen(p) < 160:
                setGreen(p, 255-getGreen(p))
    for x in range(0,getWidth(pic)):
        for y in range(0,getHeight(pic)):
            p = getPixel(pic,x,y)
            setColor(p,makeDarker(getColor(p)))

#creates raim for storm image
def Rain(pic):
    #one cloud
    for x in range(130,132):
        for y in range(77,180):
            p = getPixel(pic,x,y)
            value = random.uniform(0,1)
            if value <= .10:
                setColor(p,makeColor(144,153,161))
    for x in range(132,135):
        for y in range(77,185):
            p = getPixel(pic,x,y)
            value = random.uniform(0,1)
            if value <= .10:
                setColor(p,makeColor(144,153,161))
    for x in range(135,138):
        for y in range(79,192):
            p = getPixel(pic,x,y)
            value = random.uniform(0,1)
            if value <= .10:
                setColor(p,makeColor(144,153,161))
    for x in range(138,141):
        for y in range(79,192):
            p = getPixel(pic,x,y)
            value = random.uniform(0,1)
            if value <= .10:
                setColor(p,makeColor(144,153,161))
    for x in range(141,144):
        for y in range(80,196):
            p = getPixel(pic,x,y)
            value = random.uniform(0,1)
            if value <= .10:
                setColor(p,makeColor(144,153,161))

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for x in range(144,147):
    for y in range(81,201):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(147,150):
    for y in range(82,208):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(150,153):
    for y in range(83,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(153,156):
    for y in range(84,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(156,159):
    for y in range(84,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
#cloud 2
for x in range(220,222):
    for y in range(146,190):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(222,224):
    for y in range(147,192):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(224,226):
    for y in range(148,196):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(226,228):
    for y in range(149,198):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(228,230):
    for y in range(150,203):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:

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        setColor(p,makeColor(144,153,161))
for x in range(232,234):
    for y in range(151,201):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(234,236):
    for y in range(152,197):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
#third cloud
for x in range(220,222):
    for y in range(77,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(222,224):
    for y in range(78,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(224,226):
    for y in range(79,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(226,228):
    for y in range(80,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(228,230):
    for y in range(81,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(232,234):
    for y in range(82,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(234,236):
    for y in range(83,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))
for x in range(236,239):
    for y in range(84,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)

```

```

    if value <= .10:
        setColor(p,makeColor(144,153,161))
for x in range(239,242):
    for y in range(85,212):
        p = getPixel(pic,x,y)
        value = random.uniform(0,1)
        if value <= .10:
            setColor(p,makeColor(144,153,161))

#makes image look like wizard of Oz
def NotInKansasAnymore(pic):
    for p in getPixels(pic):
        newRed = getRed(p) * 0.299
        newBlue = getBlue(p) * 0.114
        newGreen = getGreen(p) * 0.587
        luminance = newRed + newBlue + newGreen
        setColor(p,makeColor(luminance,luminance,luminance))
indigo = makeColor(75,0,130)
violet = makeColor(238,130,238)
radius = 50
rainbow(pic,156,48,radius,radius,33,100,red)
rainbow(pic,155,49,radius,radius,33,90,orange)
rainbow(pic,154,50,radius,radius,33,90,yellow)
rainbow(pic,153,51,radius,radius,33,86,green)
rainbow(pic,152,52,radius,radius,33,85,blue)
rainbow(pic,151,53,radius,radius,33,82,indigo)
rainbow(pic,150,54,radius,radius,33,77,violet)
rainbow(pic,135,87,100,210,33,75,red)
rainbow(pic,134,88,100,210,33,74,orange)
rainbow(pic,133,89,100,210,33,72,yellow)
rainbow(pic,132,90,100,210,33,70,green)
rainbow(pic,131,91,100,210,33,69,blue)
rainbow(pic,130,92,100,210,33,68,indigo)
rainbow(pic,129,93,100,210,33,67,violet)

#creates a Rainbow for wizard of Oz theme image
def rainbow(pic,startX,startY,width,height,start,angle,color):
    addArc(pic,startX,startY,width,height,start,angle,color)

#Gives a Mary Poppins chalk scene vibe
def ASpoonFullOfSugar(pic):
    for x in range(0,getWidth(pic)):
        for y in range(0,getHeight(pic)):
            r = random.uniform(0,100)
            b = random.uniform(0,100)
            g = random.uniform(0,100)
            p = getPixel(pic,x,y)
            setColor(p,makeColor(getRed(p)+r,getGreen(p)+g,getBlue(p)+b))

```