

Dean Crosby

Completed



Original



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#Dean Crosby  
#10-13-23
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def collage():  
    #Main Picture  
    pic1 = makePicture(getMediaPath("bigben.jpg"))  
    width1 = getWidth(pic1)  
    height1 = getHeight(pic1)  
    #explore(pic1)  
  
    #Posterize  
    pic2 = makePicture(getMediaPath("bigben.jpg"))  
    width2 = getWidth(pic2)  
    height2 = getHeight(pic2)  
    pic2GrayPosterize(pic2)  
    #explore(pic2)  
  
    #Lighten  
    pic3 = makePicture(getMediaPath("bigben.jpg"))  
    width3 = getWidth(pic3)  
    height3 = getHeight(pic3)  
    pic3Lighter(pic3,width3,height3)  
    #explore(pic3)  
  
    #Mirror Horizontally  
    pic4 = makePicture(getMediaPath("bigben.jpg"))  
    width4 = getWidth(pic4)  
    height4 = getHeight(pic4)  
    pic4MirrorH(pic4,width4,height4)  
    #explore(pic4)  
  
    #Sepia Tint  
    pic5 = makePicture(getMediaPath("bigben.jpg"))  
    width5 = getWidth(pic5)  
    height5 = getHeight(pic5)  
    pic5sepiaTint(pic5)  
    #explore(pic5)  
  
    #empty picture for edited pictures to go on  
    canvas = makeEmptyPicture(width1*2, height1*2)  
    widthC = getWidth(canvas) #400  
    heightC = getHeight(canvas) #936  
  
    #copy function to put pictures on the canvas  
    copyPicture(pic2, canvas, 0, 0)  
    copyPicture(pic3, canvas, 200, 0)  
    copyPicture(pic4, canvas, 0, 468)
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copyPicture(pic5, canvas, 200, 468)
copyPicture(pic1, canvas, 100, 234)
#explore(canvas)

#signature
name = "Dean Crosby"
myFont = makeStyle("Times New Roman", italic+bold, 13)
addTextWithStyle(canvas, 0, 930, name, myFont)

explore(canvas)

def pic2GrayPosterize(pic2):
    for px in getPixels(pic2):
        r = getRed(px)
        g = getGreen(px)
        b = getBlue(px)
        luminance = (r+b+g)/3
        if(luminance <= 50):
            setColor(px,black)
        elif(luminance <= 165):
            setColor(px,gray)
        else:
            setColor(px,white)

def pic3Lighter(pic3,width,height):
    for x in range(0,width):
        for y in range(0,height):
            pixel = getPixel(pic3,x,y)
            setColor(pixel,makeLighter(makeLighter(getColor(pixel))))

def pic4MirrorH(pic4,width,height):
    half = height/2
    for x in range(0,getWidth(pic4)):
        for y in range(0,half):
            TopPx = getPixel(pic4,x,y)
            BottomPx = getPixel(pic4,x,height-y-1)
            setColor(BottomPx,getColor(TopPx))

def pic5sepiaTint(pic5):
    for p in getPixels(pic5):
        intensity = (getRed(p)+getGreen(p)+getBlue(p))/3
        setColor(p,makeColor(intensity,intensity,intensity))
    for p in getPixels(pic5):
        blue_value = getBlue(p)
        if (blue_value < 63):
            blue_value = blue_value*2
        if (blue_value > 62 and blue_value < 191):
            blue_value = blue_value*1.3
        if (blue_value > 191):
            blue_value = blue_value*1.3
        setBlue(p, blue_value)
        setRed(p, getRed(p) * .75)
        setGreen(p, getGreen(p) * .75)

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#Takes in the edited photo/main photo and puts it on the canvas
def copyPicture(picture_in, picture_out, targ_x, targ_y):
    target_x = targ_x
    for x in range(0, getWidth(picture_in)):
        target_y = targ_y
        for y in range(0, getHeight(picture_in)):
            pixel = getPixel(picture_in, x, y)
            new_pixel = getPixel(picture_out, target_x, target_y)
            setColor(new_pixel, getColor(pixel))
            target_y = target_y + 1
        target_x = target_x + 1
```