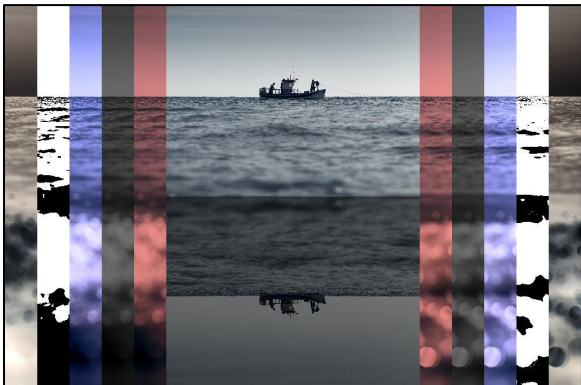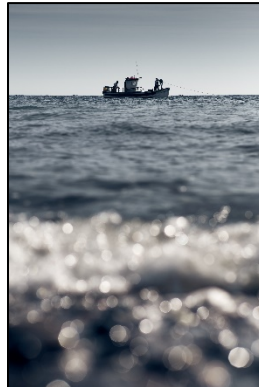# Beth Eyrick

Completed

Original


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#Bethany Eyrick March 6, 2020

def makeSunset(picture):
    for p in getPixels(picture):
        value=getBlue(p)
        setBlue(p,value*0.6)
        value=getGreen(p)
        setGreen(p,value*0.6)

def scaleDown(picture_in, picture_out,scale):
  sourceX = 0
  for targetX in range(0, getWidth(picture_in)/scale):
    sourceY = 0
    for targetY in range(0, getHeight(picture_in)/scale):
      color = getColor(getPixel(picture_in, sourceX, sourceY))
      setColor(getPixel(picture_out, targetX, targetY), color)
      sourceY = sourceY + scale
    sourceX = sourceX + scale

def mirrory(picture):
  mirrorPoint = getHeight(picture) / 2
  height = getHeight(picture)
  for x in range(0, getWidth(picture)):
    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 darken(picture, starty, endy):
  for x in range(0, getWidth(picture)):
    for y in range(starty, endy):
      px = getPixel(picture, x, y)
      color = getColor(px)
      color = makeDarker(color)
      color = makeDarker(color)
      setColor(px, color)
```

```
def increaseBlue(picture):
    for p in getPixels(picture):
        value=getBlue(p)
        setBlue(p,value*1.5)

def copy(picture_in, picture_out, tx, ty):
    targetX = tx
    for sourceX in range(0, getWidth(picture_in)):
        targetY = ty
        for sourceY in range(0, getHeight(picture_in)):
            color = getColor(getPixel(picture_in, sourceX, sourceY))
            setColor(getPixel(picture_out, targetX, targetY), color)
            targetY = targetY + 1
        targetX = targetX + 1

def grayScale(picture):
    for px in getPixels(picture):
        newRed = getRed(px) * 0.299
        newGreen = getGreen(px) * 0.587
        newBlue = getBlue(px) * 0.114
        luminance = newRed+newGreen+newBlue
        setColor(px,makeColor(luminance,luminance,luminance))

def grayPosterize(pic):
    for p in getPixels(pic):
        r = getRed(p)
        g = getGreen(p)
        b = getBlue(p)
        luminance = (r+g+b)/3
        if luminance < 100:
            setColor(p,black)
        if luminance >= 100:
            setColor(p,white)

def negative(picture):
    for px in getPixels(picture):
        red=getRed(px)
        green=getGreen(px)
        blue=getBlue(px)
        negColor=makeColor(255-red, 255-green, 255-blue)
        setColor(px,negColor)

def collage():
    picture = makePicture(getMediaPath("ocean.jpg"))
    canvas = makeEmptyPicture(1000,660, black)
    smPic = makeEmptyPicture(getWidth(picture)/9, getHeight(picture)/9)
    #create negative and copy to outermost sides
    scaleDown(picture, smPic, 9)
    negative(smPic)
    copy(smPic, canvas, 0, 0)
    copy(smPic, canvas, 560, 0)
    #gray posterize and copy to each side
    scaleDown(picture, smPic, 9)
    grayPosterize(smPic)
    copy(smPic, canvas, 56, 0)
    copy(smPic, canvas, 504, 0)
```

```
#increase blue value in picture and copy to each side
scaleDown(picture, smPic, 9)
increaseBlue(smPic)
copy(smPic, canvas, 112, 0)
copy(smPic, canvas, 448, 0)
#grayscale, darken, and copy to each side
scaleDown(picture, smPic, 9)
grayScale(smPic)
darken(smPic, 0, getHeight(smPic))
copy(smPic, canvas, 168, 0)
copy(smPic, canvas, 392, 0)
#sunset and copy to each side of original
scaleDown(picture, smPic, 9)
makeSunset(smPic)
copy(smPic, canvas, 224,0)
copy(smPic, canvas, 336, 0)
#original picture with mirrored top half to bottom
scaleDown(picture, smPic, 9)
mirrory(smPic)
#darken the mirrored half of the picture
darken(smPic, getHeight(smPic)/2, getHeight(smPic))
copy(smPic, canvas, 280, 0)
explore(canvas)
```