Kevin Contreras
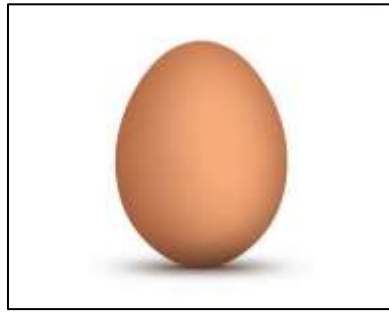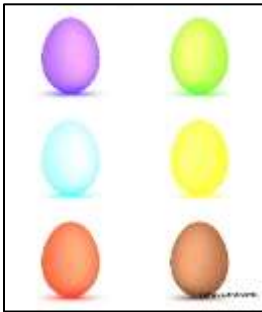
Completed   Original


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#Kevin Contreras October 20, 2021
def collage():
  setMediaPath()
  original = scaleDown(makePicture(getMediaPath("smallegg.jpg")),2)
  mod1 = scaleDown(makePicture(getMediaPath("smallegg.jpg")),2)
  mod2 = scaleDown(makePicture(getMediaPath("smallegg.jpg")),2)
  mod3 = scaleDown(makePicture(getMediaPath("smallegg.jpg")),2)
  mod4 = scaleDown(makePicture(getMediaPath("smallegg.jpg")),2)
  mod5 = scaleDown(makePicture(getMediaPath("smallegg.jpg")),2)
  canvas = makeEmptyPicture(getWidth(original) * 2, getHeight(original) * 3)
  sig = makePicture(getMediaPath("name.jpg"))
  sig = scaleDown(sig, 1)

  maxBlue(mod1)
  maxGreen(mod2)
  maxRed(mod5)
  maxYellow(mod4)
  maxRandom(mod3)

  copy(mod1, canvas, 0, 0)
  copyReverse(mod2, canvas, getWidth(canvas) - 1, 0)
  copy(mod3, canvas, 0, getHeight(mod3))
  copyReverse(mod4, canvas, getWidth(canvas) - 1, getHeight(mod4))
  copy(mod5, canvas, 0, getHeight(mod5) * 2)
  copyReverse(original, canvas, getWidth(canvas) - 1, getHeight(original) * 2)
  chromaSig(sig, canvas, getWidth(canvas) - 160, getHeight(canvas) - 50)
  show(canvas)
  writePictureTo(canvas, "Kevin_Contreras.jpg")

def copy(pic, target, targX, targY):
  targetX = targX
  for x in range(getWidth(pic)):
    targetY = targY
    for y in range(getHeight(pic)):
      pixel = getPixel(pic,x,y)
      tx = getPixel(target, targetX, targetY)
      setColor(tx, getColor(pixel))
      targetY = targetY + 1
    targetX = targetX + 1

def copyReverse(pic, target, targX, targY):
  targetX = targX
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    for x in range(getWidth(pic)):
      targetY = targY
      for y in range(getHeight(pic)):
        pixel = getPixel(pic,x,y)
        tx = getPixel(target, targetX, targetY)
        setColor(tx, getColor(pixel))
        targetY = targetY + 1
      targetX = targetX - 1

def maxBlue(pic):
  for p in getPixels(pic):
    setBlue(p, 255)
  return pic

def maxGreen(pic):
  for p in getPixels(pic):
    setGreen(p, 255)
  return pic

def maxYellow(pic):
  for px in getPixels(pic):
    red = getRed(px) + 255
    green = getGreen(px) + 200
    blue = getBlue(px) + 0
    color = makeColor(red, green, blue)
    setColor(px, color)

def maxRed(pic):
  for p in getPixels(pic):
    setRed(p, 255)
  return pic

def maxRandom(pic):
  for px in getPixels(pic):
    red = getRed(px) + 0
    green = getGreen(px) + 255
    blue = getBlue(px) + 255
    color = makeColor(red, green, blue)
    setColor(px, color)

def maxOrange(pic):
  new_color = makeColor(255, 128, 0)
  for x in range(0, getWidth(pic)):
    for y in range(0, getHeight(pic)):
      px = getPixel(pic, x, y)
      color = getColor(px)
      if distance (white, color) > 150:
        setColor(px, new_color)

def mirrorVertical(source):
  mirrorPoint = getWidth(source) / 2
  width = getWidth(source)
  for y in range(0, getHeight(source)):
    for x in range(0, mirrorPoint):
      leftPixel = getPixel(source,x,y)
      rightPixel = getPixel(source, width - x - 1,y)
      color = getColor(leftPixel)
      setColor(rightPixel, color)

def chromaSig(source, target, targetX, targetY):
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  for x in range(0, getWidth(source)):
    for y in range(0, getHeight(source)):
      px = getPixel(source, x, y)
      color = getColor(px)
      targ = getPixel(target, x + targetX, y + targetY)
      if distance (black, color) < 200:
        setColor(targ, black)

def scaleDown(pic, factor):
  canvas = makeEmptyPicture(int(getWidth(pic) / factor), int(getHeight(pic)/factor))
  scale(pic, canvas, 1.0 / factor)
  return canvas

def scale(src, canvas, factor):
  sourceX = 0
  for targetX in range(0, int(getWidth(src) * factor)):
    sourceY = 0
    for targetY in range(0, int(getHeight(src) * factor)):
      color = getColor(getPixel(src, int(sourceX), int(sourceY)))
      setColor(getPixel(canvas, targetX, targetY), color)
      sourceY = sourceY + 1.0 / factor
    sourceX = sourceX + 1.0 / factor

collage()
```