Levi Shelley

Completed   Original


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#Levi Shelley, October 20th 2021

def copy(pic, canvas, targX, targY):
  targetX = targX
  for sourceX in range(0, getWidth(pic)):
    targetY = targY
    for sourceY in range(0, getHeight(pic)):
      color = getColor(getPixel(pic, sourceX, sourceY))
      setColor(getPixel(canvas, targetX, targetY), color)
      targetY = targetY + 1
    targetX = targetX + 1

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

def flip(pic):
  result = makeEmptyPicture(getWidth(pic), getHeight(pic))
  sourceX = 0
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  for targetX in range(getWidth(pic)):
    sourceY = 0
    for targetY in range(getHeight(pic)):
      color = getColor(getPixel(pic, getWidth(pic) - sourceX - 1, getHeight(pic) - sourceY - 1))
      setColor(getPixel(result, targetX, targetY), color)
      sourceY = sourceY + 1
    sourceX = sourceX + 1
  return result



def turnMorning(pic):
  for px in getPixels(pic):
    if getRed(px) > 100:
      newRed = getRed(px) * 1
      newGreen = getGreen(px) * 1.5
      newBlue = getBlue(px) + 50 * 6
      setColor(px, makeColor(newRed, newGreen, newBlue))

def turnNoon(pic):
  for px in getPixels(pic):
    if getRed(px) > 100:
      newRed = getRed(px) * .8
      newGreen = getGreen(px) * 1.4
      newBlue = getBlue(px) + 50 * 6
      setColor(px, makeColor(newRed, newGreen, newBlue))

def turnAfternoon(pic):
  for px in getPixels(pic):
    if getRed(px) > 100:
      newRed = getRed(px) * 0.4
      newGreen = getGreen(px)
      newBlue = getBlue(px) + 50 * 4
      setColor(px, makeColor(newRed, newGreen, newBlue))

def turnSunset(pic):
  for px in getPixels(pic):
    if getRed(px) > 100:
      newRed = getRed(px) * 2
      newGreen = getGreen(px) * .8
      newBlue = getBlue(px) + 50
      setColor(px, makeColor(newRed, newGreen, newBlue))

def turnNight(pic):
  for px in getPixels(pic):
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        if getRed(px) > 100:
          newRed = getRed(px) * 0.1
          newGreen = getGreen(px) * 0.4
          newBlue = getBlue(px) + 50 * 3
          setColor(px, makeColor(newRed, newGreen, newBlue))

def turnDawn(pic):
  for px in getPixels(pic):
    if getRed(px) > 100:
      newRed = getRed(px) * .75
      newGreen = getGreen(px)
      newBlue = getBlue(px) +50 * 3
      setColor(px, makeColor(newRed, newGreen, newBlue))

def chromaSig(source,target, targetX, targetY):
  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 makeCollage():

#to edit the color of the sky, change the color when r is above 100
  setMediaPath()

  signature = makePicture(getMediaPath("low res sig.jpg"))

  originalPic = makePicture(getMediaPath("low res airplane.jpg"))
  morningPic = makePicture(getMediaPath("low res airplane.jpg"))
  afternoonPic = makePicture(getMediaPath("low res airplane.jpg"))
  sunsetPic = makePicture(getMediaPath("low res airplane.jpg"))
  nightPic = makePicture(getMediaPath("low res airplane.jpg"))
  dawnPic = makePicture(getMediaPath("low res airplane.jpg"))

  canvas = makeEmptyPicture(getWidth(originalPic) * 3, getHeight(originalPic) * 2)


  turnMorning(morningPic)
  turnAfternoon(afternoonPic)
  turnSunset(sunsetPic)
  turnNight(nightPic)
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    turnDawn(dawnPic)

    dawnPic = flip(dawnPic)
    nightPic = flip(nightPic)
    sunsetPic = flip(sunsetPic)

    copy(morningPic, canvas, 0, 0)
    copy(afternoonPic, canvas, getWidth(originalPic), 0)
    copy(originalPic, canvas, getWidth(originalPic) * 2, 0)
    copy(dawnPic, canvas, 0, getHeight(originalPic))
    copy(nightPic, canvas, getWidth(originalPic), getHeight(originalPic))
    copy(sunsetPic, canvas, getWidth(originalPic) * 2, getHeight(originalPic))

    chromaSig(signature, canvas, getWidth(canvas) - getWidth(signature), getHeight(canvas) - getHeight(signature))
    #copy(signature, canvas, getWidth(canvas) - getWidth(signature), getHeight(canvas) - getHeight(signature))

    show(canvas)

    writePictureTo(canvas, getMediaPath("finishedPicture.jpg"))


makeCollage()
```