Ray Cole

Completed

Original

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#Ray Cole
#clock-tower
#10-16-2021
def collage():
 setMediaPath()
 original = makePicture(getMediaPath("clock-tower.jpg"))
 mod1 = makePicture(getMediaPath("clock-tower.jpg"))
 mod2 = makePicture(getMediaPath("clock-tower.jpg"))
 mod3 = makePicture(getMediaPath("clock-tower.jpg"))
 mod4 = makePicture(getMediaPath("clock-tower.jpg"))
 canvas = makeEmptyPicture(getWidth(original)*2, getHeight(original)*2)
 sig = makePicture(getMediaPath("sig.jpg"))
 sig = scaleDown(sig, 8)
 clock = makePicture(getMediaPath("clock-tower.jpg"))

 mod5 = scaleDown(clock, 2)
 edge(mod5)
 midRed(mod5)

 edgeClock = makePicture(getMediaPath("clock-tower.jpg"))
 edge(edgeClock)
 midRed(edgeClock)
 mod6 = edgeClock
 mod6 = scaleDown(edgeClock, 2)


 edge(mod1)
 midRed(mod1)
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edge(mod2)
midRed(mod2)
mirrorBotTop(mod2)

edge(mod4)
midRed(mod4)

edge(mod3)
midRed(mod3)
mirrorVertical(mod3)

copy(mod1, canvas, 0, 0)
copy(mod4, canvas, getWidth(mod4), 0)
copy(mod3, canvas, 0, getHeight(mod3))
copy(mod5, canvas, 600,140)
copy(mod6, canvas, 300, 0)
copy(mod2, canvas, getWidth(mod4), getHeight(mod4))
copy(original,canvas,int(getWidth(canvas)/2-getWidth(original)/2),int(getHeight(canvas)/2-getHeight(original)/2))

mod7= makeEmptyPicture(getHeight(mod6), getWidth(mod6))
rotateRight(mod6,mod7)
mod6 = scaleDown(mod7, 2)
midRed(mod7)
copy(mod7, canvas, 63,184)

mod8 = makeEmptyPicture(getHeight(original), getWidth(original))
rotateRight(original,mod8)
original = scaleDown(mod8, 2.5)
mirrorVertical(original)
edge(original)
midRed(original)
copy(original,canvas,0,220)

mod9 = edgeClock
mod9 = scaleDown(mod9, 3)
midRed(mod9)
copy(mod9, canvas, 250, 0)

mod10 = edgeClock
mod10 = scaleDown(mod10, 2.8)
midRed(mod10)
copy(mod10, canvas, 0, 0)

mod11 = edgeClock
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 mod11 = scaleDown(mod10, 2.8)
 mirrorBotTop(mod11)
 midRed(mod11)
 copy(mod11, canvas, 0, 0)


 mod12 = edgeClock
 mod12 = scaleDown(mod10, 2.8)
 mirrorBotTop(mod12)
 midRed(mod12)
 copy(mod12, canvas, 376, 480)

 mod13 = edgeClock
 mod13 = scaleDown(mod10, 1.9)
 mirrorVertical(mod13)
 midRed(mod13)
 copy(mod13, canvas,0 , 270)

 chromaSig(sig, canvas, 640, 460 )
 show(canvas)
 writePictureTo(canvas, "ray_cole.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 += 1
  targetX += 1

def lighten(pic):
 for each_pixel in getPixels(pic):
  color = getColor(each_pixel)
  color = makeLighter(color)
  setColor(each_pixel, color)

def darken(pic):
 for each_pixel in getPixels(pic):
  color = getColor(each_pixel)
  color = makeDarker(color)
  setColor(each_pixel, color)
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def negative(pic):
 for each_pixel in getPixels(pic):
  r = getRed(each_pixel)
  b = getBlue(each_pixel)
  g = getGreen(each_pixel)
  neg = makeColor(255-r, 255-g,255-b)
  setColor(each_pixel, neg)

def edge(picture):
 for px in getPixels(picture):
  x = getX(px)
  y = getY(px)
  if y < getHeight(picture) - 1 and x < getWidth(picture) -1:
   sum = getRed(px)+getGreen(px)+getBlue(px)
   botrt = getPixel(picture, x+1, y+1)
   sum2 = getRed(botrt)+getGreen(botrt)+getBlue(botrt)
   diff = abs(sum2-sum)
   newcolor = makeColor(diff, diff, diff)
   setColor(px,newcolor)

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, blue)

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 rotateRight(src, target):
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 targetX = 0
 height = getHeight(src)
 for sourceX in range(0, getWidth(src)):
  targetY = 0
  for sourceY in range(0, getHeight(src)):
   color = getColor(getPixel(src, sourceX, sourceY))
   setColor(getPixel(target, height - 1 - targetY, targetX), color)
   targetY += 1
  targetX += 1


def rotateLeft(src, target):
 targetX = 0
 width = getWidth(src)
 for sourceX in range(0, getWidth(src)):
  targetY = 0
  for sourceY in range(0, getHeight(src)):
   color = getColor(getPixel(src, sourceX, sourceY))
   setColor(getPixel(target, targetY, width - 1 - targetX), color)
   targetY += 1
  targetX += 1

def mirrorBotTop(source):
 mirrorPoint = getHeight(source)/2
 height = getHeight(source)
 for x in range(0,getWidth(source)):
  for y in range(0,mirrorPoint):
   topPixel = getPixel(source,x,y)
   bottomPixel = getPixel(source,x,height - y - 1)
   color = getColor(bottomPixel)
   setColor(topPixel,color)

def midBlue(picture):
 for px in getPixels(picture):
  setBlue(px, 50)

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 mirrorVertical(source):
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 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 midRed(picture):
 for px in getPixels(picture):
  setRed(px, 40)

def midGreen(picture):
 for px in getPixels(picture):
  setGreen(px, 40)

def darkGreen(picture):
 for px in getPixels(picture):
  setGreen(px, 150)


def lightRed(picture):
 for px in getPixels(picture):
  setRed(px, 40)


collage()
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