Solomon Siang

Completed

Original

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#Name: Solomon Siang
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def scale(source,canvas,factor):
  sourceX = 0
  for targetX in range(0,getWidth(canvas)):
    sourceY = 0
    for targetY in range(0,getHeight(canvas)):
      color = getColor(getPixel(source,int(sourceX),int(sourceY)))
      setColor(getPixel(canvas,targetX,targetY),color)
      sourceY = sourceY + factor
    sourceX = sourceX + factor
  return canvas

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

def grayScale(picture):
  for p in getPixels(picture):
    intensity = (getRed(p)+getGreen(p)+getBlue(p))/3
    setColor(p,makeColor(intensity,intensity,intensity))

def cyanotype(picture):
  grayScale(picture)
  for p in getPixels(picture):
    blue = getBlue(p)
    red = getRed(p)
    green = getGreen(p)
    if (blue<63):
      setBlue(p,blue*2)
    elif(63 <= blue <= 191):
      setBlue(p,blue*1.3)
    else:
      setBlue(p,blue*1.2)
    setRed(p,red*0.75)
    setGreen(p,green*0.75)
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def light(pic):
  for x in range(0,getWidth(pic)):
    for y in range(0,getHeight(pic)):
      px = getPixel(pic,x,y)
      color = getColor(px)
      newColor = makeLighter(color)
      newerColor = makeLighter(newColor)
      setColor(px,newerColor)

#original function
def originalFunction(pic):
  cyanotype(pic)
  for p in getPixels(pic):
    blue = getBlue(p)
    red = getRed(p)
    green = getGreen(p)
    if (red<160):
      setRed(p,red/2)
    elif(green<160):
      setGreen(p,green/3)
    elif(63 <= blue <= 191):
      setBlue(p,blue*2)
    else:
      setBlue(p,blue*1.2)
    setRed(p,red*0.95)
    setGreen(p,green*0.80)


def chromakey(source,bg,xOffset,yOffset):
  for px in getPixels(source):
    x = getX(px)
    y = getY(px)
    if getRed(px)>220 and getGreen(px)>220 and getBlue(px)>220:
      bgpx = getPixel(bg,x+xOffset,y+yOffset)
      bgcol = getColor(bgpx)
      setColor(px,bgcol)

def collage():
  factor = 2
  pic = makePicture("planet-venus.jpg")
  sign = makePicture("signature3.jpg")
  smW = getWidth(pic)/factor
  smH = getHeight(pic)/factor
  small_pic = makeEmptyPicture(smW,smH)
  canvas = makeEmptyPicture(smW*3,smH*2,black)
  #Top Left
  topLeft = scale(pic,small_pic,factor)
  originalFunction(topLeft)
  copy(topLeft,canvas,0,0)
  #Top Right
  topRight = scale(pic,small_pic,factor)
  grayScale(topRight)
  copy(topRight,canvas,smW*2,0)
  #Bottom Left
  botLeft = scale(pic,small_pic,factor)
  light(botLeft)
  copy(botLeft,canvas,0,smH)
  #Bottom Right
  botRight = scale(pic,small_pic,factor)
```

```
cyanotype(botRight)
copy(botRight,canvas,smW*2,smH)
#Center
center = scale(pic,small_pic,factor)
copy(center,canvas,smW,smH/2)
#signature
chromakey(sign,canvas,350,450)
copy(sign,canvas,350,450)
explore(canvas)
```