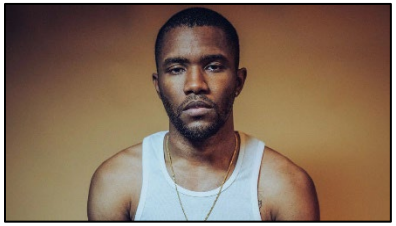
Sang Thang

Completed

Originals

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#Sang Thang
#October 10, 2022

import random

def collage():
  canvas = makeEmptyPicture(1000,562)
  #pictures
  frankface = makePicture(getMediaPath("frankface.jpg"))
  motohelmet = makePicture(getMediaPath("motohelmet.jpg"))
  chanelorange = makePicture(getMediaPath("chanelorange.jpg"))
  blondcolor = makePicture(getMediaPath("blondcolor.jpg"))
  barcode = makePicture(getMediaPath("barcode.jpg"))
  signature = makePicture(getMediaPath("signature.jpg"))
  #frank face to canvas
  copy(frankface,canvas,0,0)
  #sliced motohelmet picture to canvas
  mhcanvas = makeEmptyPicture(getWidth(motohelmet)*2,getHeight(motohelmet))
  motohelmetslice = main(mhcanvas,motohelmet,motohelmet,10)
  copy(motohelmetslice,mhcanvas,0,0)
  midmhc = makeEmptyPicture(getWidth(mhcanvas)/2,getHeight(mhcanvas)/2)
  scale(mhcanvas,midmhc,0.5)
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copy(midmhc,canvas,0,0)
#small chanelorange picture to canvas
smallco = makeEmptyPicture(getWidth(chanelorange)/4,getHeight(chanelorange)/4)
scale(chanelorange,smallco,0.25)
copy(smallco,canvas,0,115)
#mirror medium chanelorange posterize to canvas
midco = makeEmptyPicture(getWidth(chanelorange)/2,getHeight(chanelorange)/2)
scale(chanelorange,midco,0.5)
posterize(midco,green,black,170)
mirror2(midco)
copy(midco,canvas,750,0)
#blur barcode to canvas
smallbarcode = makeEmptyPicture(getWidth(barcode)/4,getHeight(barcode)/4)
scale(barcode,smallbarcode,0.25)
blur(smallbarcode)
copy(smallbarcode,canvas,847,468)
#cropcopy posterize frank face
cropff = makeEmptyPicture(140,365)
cropcopy(frankface,cropff,485,625,0,365)
posterize(cropff,blue,red,50)
copy(cropff,canvas,485,0)
#mid bloncolor sliced to canvas
midbc = makeEmptyPicture(getWidth(blondcolor)/2,getHeight(blondcolor)/2)
scale(blondcolor,midbc,0.5)
sbccanvas = makeEmptyPicture(getWidth(midbc)*2,getHeight(midbc))
blondcolorslice = main(sbccanvas,midbc,midbc,5)
copy(blondcolorslice,sbccanvas,0,0)
mirror2(sbccanvas)
customsbccanvas = custom(sbccanvas)
copy(customsbccanvas,canvas,100,420)
#negative custom blondcolor to canvas
negativemidbc = negative(midbc)
copy(negativemidbc,canvas,75,225)
#motohelmet color swap to canvas
csmhc = colorSwap(midmhc)
copy(csmhc,canvas,600,330)
#cropcopy grayscale canvas to canvas
cropc1 = makeEmptyPicture(255,140)
cropcopy(canvas,cropc1,30,285,315,455)
grayScale(cropc1)
copy(cropc1,canvas,30,315)
#cropcopy negative canvas to canvas
cropc2 = makeEmptyPicture(368,137)
cropcopy(canvas,cropc2,517,885,33,170)
negative(cropc2)
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  copy(cropc2,canvas,517,33)
  #custom frankface
  cropffc = makeEmptyPicture(85,365)
  cropcopy(frankface,cropffc,400,485,0,365)
  customcropffc = custom(cropffc)
  copy(customcropffc,canvas,400,0)
  #light canvas
  light(canvas)
  #chromakeys white to show canvas behind signature
  chromakey(signature,canvas)
  explore(signature)

#*********WORK*************************************************************************

#code to slice temple picture
def main(blank,src1,src2,factor):
  slices = factor
  pic1 = src1
  pic2 = src2
  slicedw1 = getWidth(pic1)/slices
  slicedw2 = getWidth(pic2)/slices
  height1 = getHeight(pic1)
  height2 = getHeight(pic2)
  #averages the widths of the two pictures
  bwidth = (slicedw1*slices) + (slicedw2*slices)
  #averages the heights of the two pictures
  bheight = (height1 + height2) / 2
  blank = makeEmptyPicture(bwidth,bheight)
  for slice in range(0,slices):
    copyslices(pic1,blank,slicedw1*slice,slicedw1*(slice+1),(slicedw2+slicedw1)*slice,0)
    copyslices(pic2,blank,slicedw2*slice,slicedw2*(slice+1),(slicedw1+slicedw2)*slice,slicedw1)
  return(blank)
def copyslices(pic,blank,startX,endX,newX,offset):
  for x in range(startX,endX):
    for y in range(0,getHeight(pic)):
      color = getColor(getPixel(pic,x,y))
      pix = getPixel(blank,newX+offset,y)
      setColor(pix,color)
    newX = newX + 1

#general copy function
def copy(source,canvas,targX,targY):
  targetX = targX
  for sourceX in range(0,getWidth(source)):
    targetY = targY
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    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)

#crop copy function
def cropcopy(pic,canvas,startX,endX,startY,endY):
  # Set up the source and target pictures
  src = pic
  # Now, do the actual copying
  targetX = 0
  for sourceX in range(startX,endX):
    targetY = 0
    for sourceY in range(startY,endY):
      color = getColor(getPixel(src,sourceX,sourceY))
      setColor(getPixel(canvas,targetX,targetY), color)
      targetY = targetY + 1
    targetX = targetX + 1
  #show(src)
  return canvas

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

#blur function
def blur(source):
  target=duplicatePicture(source)
  for x in range(1, getWidth(source)-1):
    for y in range(1, getHeight(source)-1):
      top = getPixel(source,x,y-1)
      left = getPixel(source,x-1,y)
      bottom = getPixel(source,x,y+1)
      right = getPixel(source,x+1,y)
      center = getPixel(target,x,y)
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      newRed=(getRed(top)+ getRed(left) + getRed(bottom) + getRed(right) + getRed(center))/5
      newGreen=(getGreen(top) + getGreen(left) + getGreen(bottom) + getGreen(right) + getGreen(center))/5
      newBlue=(getBlue(top) + getBlue(left) + getBlue(bottom) + getBlue(right)+ getBlue(center))/5
      setColor(center, makeColor(newRed, newGreen, newBlue))
  return target

#chromakey
def chromakey(source,bg):
  for px in getPixels(source):
    x = getX(px)
    y = getY(px)
    if (getRed(px)>10 and getGreen(px)>10 and getBlue(px)>10):
      bgpx = getPixel(bg,x,y)
      bgcol = getColor(bgpx)
      setColor(px,bgcol)

#posterize
def posterize(source,color1,color2,num):
  for px in getPixels(source):
    r = getRed(px)
    g = getGreen(px)
    b = getBlue(px)
    luminence = (r+g+b)/3
    if luminence < num:
      setColor(px,color1)
    if luminence >= num:
      setColor(px,color2)

#mirror up and down
def mirror2(pic):
  mirrorPoint = getHeight(pic) / 2
  height = getHeight(pic)
  for x in range(0,getWidth(pic)):
    for y in range(0,mirrorPoint):
      bottomPixel = getPixel(pic,x,height - y - 1)
      topPixel = getPixel(pic,x,y)
      color = getColor(topPixel)
      setColor(bottomPixel,color)

#lighten
def light(pic):
  for x in range(0,getWidth(pic)):
    for y in range(0,getHeight(pic)):
      pixel = getPixel(pic,x,y)
      color = getColor(pixel)
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      color = makeLighter(color)
      setColor(pixel,color)

#negative
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)
  return(picture)

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

#color swap
def colorSwap(picture):
  for p in getPixels(picture):
    redValue = getRed(p)
    blueValue = getBlue(p)
    greenValue = getGreen(p)
    setRed(p,blueValue)
    setBlue(p,greenValue)
    setGreen(p,redValue)
  return(picture)

#custom function
def custom(pic):
  for x in range(0,getWidth(pic),2):
    for y in range(0,getHeight(pic),2):
      setRed(getPixel(pic,x,y),random.randint(0,255))
      setBlue(getPixel(pic,x,y),random.randint(0,255))
      setGreen(getPixel(pic,x,y),random.randint(0,255))
  return(pic)
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