Ke'Juan Smith

Completed

Original


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#Ke'Juan Smith 10/17/22
def collage():
  setMediaPath("/Users/kxs/Rock Lee For Project 2")
  picAName = getMediaPath("KeJuan_Smith_cocosign.jpg")
  picA = makePicture(picAName)
  signature = makePicture(getMediaPath("KeJuan_Smith_cocosign.jpg"))

  #The Picture(s) I Used
  originalpic1 = makePicture(getMediaPath("rock-lee-fired-up.jpg"))
  originalpic2 = makePicture(getMediaPath("rock-lee-fired-up.jpg"))
  originalpic3 = makePicture(getMediaPath("rock-lee-fired-up.jpg"))
  originalpic4 = makePicture(getMediaPath("rock-lee-fired-up.jpg"))

  #The dimensions of pic1
  width1 = getWidth(originalpic1)
  half_width1 = width1 / 2
  height1 = getHeight(originalpic1)
  half_height1 = height1 / 2

   #Dimensions of pic2
  width2 = getWidth(originalpic2)
  half_width2 = width2 / 2
  height2 = getHeight(originalpic2)
  half_height2 = height2 / 2

  #Dimensions of pic3
  width3 = getWidth(originalpic3)
  half_width3 = width3 / 2
  height3 = getHeight(originalpic3)
  half_height3 = height3 / 2

  #Dimensions of pic4
  width4 = getWidth(originalpic4)
  half_width4 = width4 / 2
  height4 = getHeight(originalpic4)
  half_height4 = height4 / 2

  #New Blank Canvas
  newpic = makeEmptyPicture(1000, 736)
  widthnew = getWidth(newpic)
  half_widthnew = widthnew / 2
  heightnew = getHeight(newpic)
  half_heightnew = heightnew / 2
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  #Original Pic
  originalpic = makePicture(getMediaPath("rock-lee-fired-up.jpg"))
  width = getWidth(originalpic)
  half_width = width / 2
  height = getHeight(originalpic)
  half_height = height / 2

  #Changing the appearnace of images
  negative(originalpic2)

  negative(originalpic3)

  edgeDetect(originalpic1, 2)

  edgeDetect(originalpic4, 2)

  #Where the new images are being placed
  copyPic(originalpic, newpic, half_widthnew, 0, half_widthnew, 0)
  copyPic(originalpic1, newpic, 0, 0, half_widthnew, 0)
  copyPic(originalpic2, newpic, half_widthnew, 0, half_widthnew, half_heightnew)
  copyPic(originalpic3, newpic, 0, half_heightnew, 0, 0)
  copyPic(originalpic4, newpic, half_widthnew, half_heightnew, 0, half_heightnew)
  copyPic(originalpic, newpic, 337, 250, 235, 200)
  #Signature and then showing the new image
  addSignature(newpic,signature,235,325,black)
  explore(newpic)


#The code for placing the images onto the blank canvas (newpic)
def copyPic(originalpic, newpic, Xstart, Ystart, Xend, Yend):
  in_x = Xend
  for x in range(Xstart, Xstart + getWidth(originalpic) / 2):
   in_y = Yend
   for y in range(Ystart,Ystart + getHeight(originalpic) /2):
    Px = getPixel(originalpic, x, y)
    newPx = getPixel(newpic, in_x, in_y)
    setColor(newPx, getColor(Px))
    in_y = in_y + 1
   in_x = in_x + 1

#All apart of the edgeDetect function which makes it Red
def luminance(pixel):
  r = getRed(pixel)
  g = getGreen(pixel)
  b = getBlue(pixel)
  return (r+g+b)/3

def edgeDetect(source, threshold):
  for px in getPixels(source):
    x = getX(px)
    y = getY(px)
    if y < getHeight(source)-1 and x < getWidth(source)-1:
      botrt = getPixel(source,x+1,y+1)
      thislum = luminance(px)
      brlum = luminance(botrt)
      if abs(brlum-thislum) > threshold:
        setColor(px, blue)
      if abs(brlum-thislum) <= threshold:
        setColor(px, red)
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```python
#The function that makes it 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)

#The function that places my signature
def addSignature(target, signature, toX, toY, color):
  toYStart = toY
  for x in range(0, getWidth(signature)):
    toY = toYStart
    for y in range(0,getHeight(signature)):
      p = getPixel(signature, x, y)
      if (getRed(p) < 225 and getGreen(p) < 225 and getBlue(p) < 225):
        setColor(getPixel(target, toX, toY), color)
      toY = toY + 1
    toX = toX + 1
  return target
```