Mason Scott

Completed

Originals

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def collage():
  #Mason Scott 10/15/21
  overall= makeEmptyPicture(700,900,black)
  sourcepic= makePicture(getMediaPath("back.jfif"))

  factor=4
  smallwidth= getWidth(sourcepic)/factor
  smallheight= getHeight(sourcepic)/factor
  smallpicture= makeEmptyPicture(smallwidth,smallheight,black)

  scale(smallwidth,smallheight,smallpicture,sourcepic,(1.0/factor))
  ted(overall)
  edit1=smallpicture
  greyscale(edit1)
  steve(overall,edit1)
  scale(smallwidth,smallheight,smallpicture,sourcepic,(1.0/factor))
  edit2=smallpicture
  colorswap(edit2)
  lilly(overall,edit2)
  scale(smallwidth,smallheight,smallpicture,sourcepic,(1.0/factor))
  edit3=smallpicture
  coloradv(edit3)
  tanktheturtle(overall,edit3)
  scale(smallwidth,smallheight,smallpicture,sourcepic,(1.0/factor))
  edit4=smallpicture
  edgeDetect(edit4)
  greg(overall,edit4)
  chromakey(overall)

  repaint(overall)

#BACKGROUND TURTLE
def ted(overall):
  p=makePicture(getMediaPath("back.jfif"))
  ted=Turtle(overall)
  penUp(ted)
  ted.moveTo(350,450)
  for i in range (0,300):
    ted.drop(p)
    ted.forward(10)
    ted.turn(20)
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#TOP LEFT TURTLE
def steve(overall,edit1):
  steve=Turtle(overall)
  penUp(steve)
  steve.moveTo(100,150)
  for i in range (0,300):
    steve.drop(edit1)
    steve.forward(10)
    steve.turn(20)

#TOP RIGHT TURTLE
def lilly(overall,edit2):
  lilly=Turtle(overall)
  penUp(lilly)
  lilly.moveTo(535,150)
  for i in range (0,300):
    lilly.drop(edit2)
    lilly.forward(10)
    lilly.turn(20)

#BOTTOM LEFT TURTLE
def tanktheturtle(overall,edit3):
  tanktheturtle=Turtle(overall)
  penUp(tanktheturtle)
  tanktheturtle.moveTo(100,775)
  for i in range (0,300):
    tanktheturtle.drop(edit3)
    tanktheturtle.forward(10)
    tanktheturtle.turn(20)

#BOTTOM RIGHT TURTLE
def greg(overall,edit4):
  greg=Turtle(overall)
  penUp(greg)
  greg.moveTo(535,775)
  for i in range (0,300):
    greg.drop(edit4)
    greg.forward(10)
    greg.turn(20)



#SCALE FOR PICTURES
def scale(smallwidth,smallheight,smallpicture,sourcepic,factor):
  sourceX = 0
  for targetX in range (0,smallwidth):
    sourceY= 0
    for targetY in range (0,smallheight):
      sourcep = getPixel(sourcepic,int(sourceX),int(sourceY))
      color1=getColor(sourcep)
      setColor(getPixel(smallpicture,targetX,targetY), color1)
      sourceY = sourceY+(1.0/factor)
    sourceX = sourceX+(1.0/factor)

#GREYSCALE BECAUSE CAPTIONS ARE COOL
def greyscale(edit1):
  for p in getPixels(edit1):
    intensity=(getRed(p)+getGreen(p)+getBlue(p))/3
    setColor(p,makeColor(intensity,intensity,intensity))
```

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#CAN WE GUESS WHAT THIS FUNCTION DOES?
def colorswap(edit2):
  for p in getPixels(edit2):
    valueR=getRed(p)
    valueB=getBlue(p)
    valueG=getGreen(p)
    setRed(p,valueB)
    setBlue(p,valueG)
    setGreen(p,valueR)

#INSERT CAPTION HERE
def coloradv(edit3):
  for p in getPixels(edit3):
    valueR=getRed(p)
    setRed(p,valueR+int(127)/2)
    valueB=getBlue(p)
    setBlue(p,valueB+int(63)/2)
    valueG=getGreen(p)
    setGreen(p,valueG+int(181)/2)

#EDGE DETECTION
def luminance(pixel):
  r=getRed(pixel)
  g=getGreen(pixel)
  b=getBlue(pixel)
  return (r+g+b)/3

def edgeDetect(edit4):
  for p in getPixels(edit4):
    x=getX(p)
    y=getY(p)
    if y < getHeight(edit4)-1 and x < getWidth(edit4)-1:
      botrt=getPixel(edit4,x+1,y+1)
      thislum=luminance(p)
      brlum=luminance(botrt)
      if abs(brlum-thislum) > 2:
        setColor(p,red)
      if abs(brlum-thislum) <= 2:
        setColor(p,blue)

#CHROMAKEY SIGNATURE
def chromakey(overall):

  picture= makePicture(getMediaPath("initials.png"))
  bg= overall


  for p in getPixels(picture):
    x=getX(p)
    y=getY(p)
    if(getRed(p) > 200 and getGreen(p) > 200 and getBlue(p) > 200):
      bgp= getPixel(bg,x,y)
      bgcolor= getColor(bgp)
      setColor(p,bgcolor)

    else:
      setColor(p,white)
  copyInto(picture,overall,0,0)
```