Evan Lehr

Completed

Originals

```
#Evan Lehr Feb. 24
def collage():
  canvas=makeEmptyPicture(736,1000,black)
  name=makePicture(getMediaPath("signature.jpg"))
  source=makePicture(getMediaPath("Extreme_closeUP.jpeg"))
  miniCanvas=makeEmptyPicture(getWidth(source),getHeight(source))
  center_pic=makePicture((getMediaPath("center.png")))
  scaleDown(source,miniCanvas,4)
  original_pic=miniCanvas
  signedCanvas=makeEmptyPicture(736,1000)
  copy(name,signedCanvas,580,870,0,getWidth(name),0,getHeight(name))

  #edit canvas will each have different edits of center pic, to then be copied to
  #main pic
  editCanvas1=makeEmptyPicture(596,860)
  editCanvas2=makeEmptyPicture(596,860)
  editCanvas3=makeEmptyPicture(596,860)
  editCanvas4=makeEmptyPicture(596,860)

  #edit pics will be used to make a border
  editPic1=makeEmptyPicture(getWidth(original_pic),getHeight(original_pic))
  editPic2=makeEmptyPicture(getWidth(original_pic),getHeight(original_pic))
  editPic3=makeEmptyPicture(getWidth(original_pic),getHeight(original_pic))
  editPic4=makeEmptyPicture(getWidth(original_pic),getHeight(original_pic))

  copy(center_pic,editCanvas1,0,0,0,596,0,860)
  copy(center_pic,editCanvas2,0,0,0,596,0,860)
  copy(center_pic,editCanvas3,0,0,0,596,0,860)
  copy(center_pic,editCanvas4,0,0,0,596,0,860)

  negative(editCanvas1,editCanvas1)
  posterize(editCanvas2,editCanvas2,yellow,blue)
  linedraw(editCanvas3,editCanvas3)
  grayscale(editCanvas4,editCanvas4)

  #Corner Code
  copy(original_pic,canvas,0,930,56,126,24,94)
  copy(original_pic,canvas,0,0,56,126,24,94)
  pre_mirror=makeEmptyPicture(getWidth(original_pic),getHeight(original_pic))
  copy(original_pic,pre_mirror,0,0,56,126,24,94)
  mirror_pic=makeEmptyPicture(70,70)
  mirror(pre_mirror,mirror_pic)

  copy(mirror_pic,canvas,666,0,0,70,0,70)
```

```
copy(mirror_pic,canvas,666,930,0,70,0,70)

copy(original_pic,editPic1,0,0,0,getWidth(original_pic),0,getHeight(original_pic))
copy(original_pic,editPic2,0,0,0,getWidth(original_pic),0,getHeight(original_pic))
copy(original_pic,editPic3,0,0,0,getWidth(original_pic),0,getHeight(original_pic))
copy(original_pic,editPic4,0,0,0,getWidth(original_pic),0,getHeight(original_pic))


#Left Border Code
negative(editPic1,editPic1)
linedraw(editPic2,editPic2)
posterize(editPic3,editPic3,green,pink)
grayscale(editPic4,editPic4)
copy(editPic1,canvas,0,70,56,126,24,94)
copy(editPic1,canvas,0,860,56,126,24,94)

copy(editPic1,canvas,70,0,56,126,24,94)
copy(editPic1,canvas,70,930,56,126,24,94)

copy(editPic2,canvas,1,211,56,126,24,94)
copy(editPic2,canvas,1,720,56,126,24,94)

copy(editPic2,canvas,140,1,56,126,24,94)
copy(editPic2,canvas,141,930,56,126,24,94)

copy(editPic3,canvas,0,140,56,126,24,94)
copy(editPic3,canvas,0,790,56,126,24,94)

copy(editPic3,canvas,210,0,56,126,24,94)
copy(editPic3,canvas,210,930,56,126,24,94)

copy(editPic4,canvas,0,280,56,126,24,94)
copy(editPic4,canvas,0,650,56,126,24,94)

copy(editPic4,canvas,280,0,56,126,24,94)
copy(editPic4,canvas,280,930,56,126,24,94)

#Right Border Code
editPic1=makeEmptyPicture(70,70)
editPic2=makeEmptyPicture(70,70)
editPic3=makeEmptyPicture(70,70)
editPic4=makeEmptyPicture(70,70)
editPic5=makeEmptyPicture(70,70)
copy(mirror_pic,editPic1,0,0,0,70,0,70)
copy(mirror_pic,editPic2,0,0,0,70,0,70)
copy(mirror_pic,editPic3,0,0,0,70,0,70)
copy(mirror_pic,editPic4,0,0,0,70,0,70)
copy(mirror_pic,editPic5,0,0,0,70,0,70)

negative(editPic1,editPic1)
linedraw(editPic2,editPic2)
posterize(editPic3,editPic3,green,pink)
grayscale(editPic4,editPic4)
copy(editPic1,canvas,666,70,0,70,0,70)
copy(editPic1,canvas,666,860,0,70,0,70)

copy(editPic1,canvas,596,0,0,70,0,70)
copy(editPic1,canvas,596,930,0,70,0,70)
```

```
  copy(editPic2,canvas,666,210,0,70,0,70)
  copy(editPic2,canvas,666,720,0,70,0,70)

  copy(editPic2,canvas,526,0,0,70,0,70)
  copy(editPic2,canvas,526,930,0,70,0,70)

  copy(editPic3,canvas,666,140,0,70,0,70)
  copy(editPic3,canvas,666,790,0,70,0,70)

  copy(editPic3,canvas,456,0,0,70,0,70)
  copy(editPic3,canvas,456,930,0,70,0,70)

  copy(editPic4,canvas,666,280,0,70,0,70)
  copy(editPic4,canvas,666,650,0,70,0,70)

  copy(editPic4,canvas,386,0,0,70,0,70)
  copy(editPic4,canvas,386,930,0,70,0,70)

  #Center Code
  for x in range (70,596):
   for y in range(70,860):
     setColor(getPixel(canvas,x,y),black)

  #Top left
  copy(editCanvas1,canvas,70,70,0,596,0,860)
  #bottom left
  copy(editCanvas3,canvas,70,500,0,298,430,860)
  #bottom right
  copy(editCanvas2,canvas,368,500,298,596,430,860)
  #top right
  copy(editCanvas4,canvas,368,70,298,596,0,430)
  #center Center
  copy(center_pic,canvas,219,200,149,447,130,669)

  signing(signedCanvas,canvas)
  show(signedCanvas)

def signing(pic,newbg):
  bg=makeEmptyPicture(getWidth(pic),getHeight(pic))
  for px in getPixels(pic):
    x=getX(px)
    y=getY(px)
    bgpx=getPixel(bg,x,y)
    pxcol=getColor(px)
    bgcol=getColor(bgpx)
    if (distance(pxcol,bgcol)<200.0):
      newcol=getColor(getPixel(newbg,x,y))
      setColor(px,newcol)

#This copy function is my 'modified' function. It allows me to pick a specific region
#of a picture that I want to copy, effectively cropping and copying a picture in one
def copy(pic_in,pic_out,targetX,targetY,xxrange,xyrange,yxrange,yyrange):
  targX=targetX
  for x in range(xxrange,xyrange):
    targY=targetY
    for y in range(yxrange,yyrange):
      color=getColor(getPixel(pic_in,x,y))
      setColor(getPixel(pic_out,targX,targY),color)
      targY=targY+1
```

```
    targX=targX+1

def mirror(pic_in,pic_out):
  smallpic=makeEmptyPicture(70,70)
  copy(pic_in,smallpic,0,0,0,70,0,70)

  targX=69
  for x in range (0,70):
    targY=0
    for y in range (0,70):
      color=getColor(getPixel(pic_in,x,y))
      setColor(getPixel(pic_out,targX,targY),color)
      targY=targY+1
    targX=targX-1

def scaleDown(pic_in,pic_out,scaler):
  srcX=0
  for x in range(0,getWidth(pic_in)):
    srcY=0
    for y in range(0,getHeight(pic_in)):
      color=getColor(getPixel(pic_in,int(srcX/scaler),int(srcY/scaler)))
      setColor(getPixel(pic_out,int(x/scaler),int(y/scaler)),color)
      srcY=(srcY+scaler/1.0)
    srcX=(srcX+scaler/1.0)

def negative(pic_in,pic_out):
  for px in getPixels(pic_in):
    red=getRed(px)
    green=getGreen(px)
    blue=getBlue(px)
    negcolor=makeColor(255-red,255-green,255-blue)
    setColor(px,negcolor)

def posterize(pic_in,pic_out,color1,color2):
  for p in getPixels(pic_in):
    r=getRed(p)
    g=getGreen(p)
    b=getBlue(p)
    lum=(r+g+b)/3
    if lum<100:
      setColor(p,color1)
    else:
      setColor(p,color2)

def linedraw(pic_in,pic_out):
  for p in getPixels(pic_in):
    x=getX(p)
    y=getY(p)
    if y<getHeight(pic_in)-1 and x<getWidth(pic_in)-1:
      sum=getRed(p)+getGreen(p)+getBlue(p)
      botrt=getPixel(pic_in,x+1,y+1)
      sum2=getRed(botrt)+getGreen(botrt)+getBlue(botrt)
      dif=abs(sum2-sum)
      newColor=makeColor(dif,dif,dif)
      setColor(p,newColor)

def grayscale(pic_in,pic_out):
  for p in getPixels(pic_in):
    i=(getRed(p)+getGreen(p)+getBlue(p))/3
    setColor(p,makeColor(i,i,i))
```