Samuel Agee
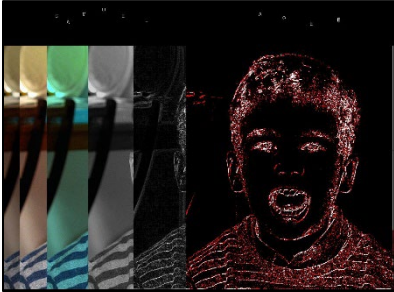
Completed

Originals


```
#Samuel Agee
#Art Show Project

def main():
  picture = makePicture(pickAFile())
  canvas = makeEmptyPicture(1000,736,black)

  show(collage(picture,canvas))

def lighten(picture):
  for x in range(0,getWidth(picture)):
    for y in range(0,getHeight(picture)):
      px = getPixel(picture,x,y)
      color = getColor(px)
      color = makeLighter(color)
      setColor(px,color)

def posterize(picture):
  for p in getPixels(picture):
    r = getRed(p)
    g = getGreen(p)
    b = getBlue(p)
    luminance = (r+g+b)/3
    if luminance < 64:
      setColor(p,black)
    elif luminance > 120:
      setColor(p,white)
    else:
      setColor(p,red)
```

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

def line(picture):
  for px in getPixels(picture):
    x = getX(px)
    y = getY(px)
    if y < getHeight(picture)-1 and x < getWidth(picture)-1:
      sum = getRed(px)+getGreen(px)+getBlue(px)
      botrt = getPixel(picture,x+1,y+1)
      sum2 = getRed(botrt)+getGreen(botrt)+getBlue(botrt)
      diff = abs(sum2-sum)
      newColor = makeColor(diff,diff,diff)
      setColor(px,newColor)

def decreaseRed(picture):
  pixels = getPixels(picture)
  for index in range(0,len(pixels)):
    pixel = pixels[index]
    value = getRed(pixel)
    setRed(pixel,value * 0.5)

def collage(picture,canvas):
  targetX = 0
  for sourceX in range(0,getWidth(picture)):
    targetY = getHeight(canvas) - getHeight(picture)-5
    for sourceY in range(0,getHeight(picture)):
      px = getPixel(picture,sourceX,sourceY)
      cx = getPixel(canvas,targetX,targetY)
      setColor(cx,getColor(px))
      targetY = targetY + 1
    targetX = targetX + 1

  lighten(picture)
  targetX = 40
  for sourceX in range(0,getWidth(picture)):
    targetY = getHeight(canvas) - getHeight(picture)-5
    for sourceY in range(0,getHeight(picture)):
      px = getPixel(picture,sourceX,sourceY)
      cx = getPixel(canvas,targetX,targetY)
      setColor(cx,getColor(px))
      targetY = targetY + 1
    targetX = targetX + 1
```

```
decreaseRed(picture)
targetX = 110
for sourceX in range(0,getWidth(picture)):
  targetY = getHeight(canvas) - getHeight(picture)-5
  for sourceY in range(0,getHeight(picture)):
    px = getPixel(picture,sourceX,sourceY)
    cx = getPixel(canvas,targetX,targetY)
    setColor(cx,getColor(px))
    targetY = targetY + 1
  targetX = targetX + 1

grayScale(picture)
targetX = 215
for sourceX in range(0,getWidth(picture)):
  targetY = getHeight(canvas) - getHeight(picture)-5
  for sourceY in range(0,getHeight(picture)):
    px = getPixel(picture,sourceX,sourceY)
    cx = getPixel(canvas,targetX,targetY)
    setColor(cx,getColor(px))
    targetY = targetY + 1
  targetX = targetX + 1

line(picture)
targetX = 330
for sourceX in range(0,getWidth(picture)):
  targetY = getHeight(canvas) - getHeight(picture)-5
  for sourceY in range(0,getHeight(picture)):
    px = getPixel(picture,sourceX,sourceY)
    cx = getPixel(canvas,targetX,targetY)
    setColor(cx,getColor(px))
    targetY = targetY + 1
  targetX = targetX + 1

posterize(picture)
targetX = 465
for sourceX in range(0,getWidth(picture)):
  targetY = getHeight(canvas) - getHeight(picture)-5
  for sourceY in range(0,getHeight(picture)):
    px = getPixel(picture,sourceX,sourceY)
    cx = getPixel(canvas,targetX,targetY)
    setColor(cx,getColor(px))
    targetY = targetY + 1
  targetX = targetX + 1
```

```
str = "S"
addText(canvas,130,40,str,white)
str = "A"
addText(canvas,160,55,str,white)
str = "M"
addText(canvas,200,35,str,white)
str = "U"
addText(canvas,250,25,str,white)
str = "E"
addText(canvas,300,40,str,white)
str = "L"
addText(canvas,360,50,str,white)

str = "A"
addText(canvas,650,35,str,white)
str = "G"
addText(canvas,710,45,str,white)
str = "E"
addText(canvas,780,60,str,white)
str = "E"
addText(canvas,850,50,str,white)

show(canvas)
return canvas
```