

Emma Brotz

Completed



Originals



#Written by Emma Brotz, 2024

```
def collage():
```

```
#canvas & pictures
```

```
canvas = makeEmptyPicture(960,720,white)
```

```
collar = makePicture(getMediaPath("collar.jpg.jpg"))
```

```
bath = makePicture(getMediaPath("bath.jpg"))
```

```
rug = makePicture(getMediaPath("rug.jpg"))
```

```
signature = makePicture(getMediaPath("signature.png"))
```

```
#1.1
```

```
copy(collar,canvas,0,0)
```

```
#1.2
```

```
sepia(rug)
```

```
copy(rug,canvas,getWidth(collar),0)
```

```
#2.1
```

```
makeyellow(bath)
```

```
copy(bath,canvas,0,getHeight(collar))
```

```
#2.3
```

```
makegreen(bath)
```

```
copy(bath,canvas,getWidth(collar)*2,getHeight(collar))
```

```
#3.1
```

```
lighten(collar)
```

```
copy(collar,canvas,0,getHeight(collar)*2)
```

```
#3.2
```

```
negative(rug)
```

```
copy(rug,canvas,getWidth(collar),getHeight(collar)*2)
```

```
#1.3
```

```
darken(collar)
```

```
copy(collar,canvas,getWidth(collar)*2,0)
```

```
#3.3
```

```
darken(collar)
```

```
copy(collar,canvas,getWidth(collar)*2,getHeight(collar)*2)
```

```
#2.2
```

```
lighten(collar)
```

```
greyscale(collar)
```

```
mirrorvertical(collar)
```

```
posterize(collar)
```

```
copy(collar,canvas,getWidth(collar),getHeight(collar))
```

```

#signature
chroma2(signature,canvas)
copy(signature,canvas,0,0)
explore(canvas)

#copy
def copy(picture,target,targX,targY):
    targetX = targX
    for sourceX in range(0,getWidth(picture)):
        targetY = targY
        for sourceY in range(0,getHeight(picture)):
            px=getPixel(picture,sourceX,sourceY)
            tx=getPixel(target,targetX,targetY)
            setColor(tx,getColor(px))
            targetY = targetY+1
        targetX = targetX+1
    return(picture)

#filters
def mirrorvertical(picture):
    mirrorpoint = getWidth(picture)/2
    width=getWidth(picture)
    for y in range(0,getHeight(picture)):
        for x in range(0,mirrorpoint):
            leftpx = getPixel(picture,x,y)
            rightpx = getPixel(picture,width - x - 1,y)
            color = getColor(leftpx)
            setColor(rightpx,color)
    return(picture)

def posterize(picture):
    for p in getPixels(picture):
        red = getRed(p)
        green = getGreen(p)
        blue = getBlue(p)

        if(red < 64):
            setRed(p, 31)
        if(red > 63 and red < 128):
            setRed(p, 95)
        if(red > 127 and red < 192):
            setRed(p, 159)
        if(red > 191 and red < 256):
            setRed(p, 233)

        if(green < 64):
            setGreen(p, 31)
        if(green > 63 and red < 128):
            setGreen(p, 95)
        if(green > 127 and red < 192):
            setGreen(p, 159)
        if(green > 191 and red < 256):
            setGreen(p, 233)

        if(blue < 64):
            setBlue(p, 31)
        if(blue > 63 and red < 128):
            setBlue(p, 95)
        if(blue > 127 and red < 192):
            setBlue(p, 159)

```

```

    if (blue > 191 and red < 256):
        setBlue(p, 233)
    return (picture)

def makeyellow (picture):
    for p in getPixels (picture):
        setBlue (p, 69)
    return (picture)

def makegreen (picture):
    for p in getPixels (picture):
        setRed (p, 69)
    return (picture)

def lighten (picture):
    for px in getPixels (picture):
        color = getColor (px)
        color = makeLighter (color)
        setColor (px, color)
    return (picture)

def darken (picture):
    for px in getPixels (picture):
        color = getColor (px)
        color = makeDarker (color)
        setColor (px, color)
    return (picture)

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)

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

def sepia (picture):
    for p in getPixels (picture):
        red = getRed (p)
        green = getGreen (p)
        blue = getBlue (p)
        if (red < 63):
            red = red*2.2
            blue = blue*0.9
        if (red > 62 and red < 192):
            red = red*3
            blue = blue*0.89
        if (red > 191):
            red = red*2
            if (red > 255):
                red = 255
            blue = blue*1
        setBlue (p, blue)
        setRed (p, red)

```

```
def chroma2(source,bg):
    for px in getPixels(source):
        x = getX(px)
        y = getY(px)
        if (getRed(px)<255 and getGreen(px)<255 and getBlue(px)<255):
            bgpx = getPixel(bg,x,y)
            bgcol = getColor(bgpx)
            setColor(px,makeColor(69,69,69))

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

    for px in getPixels(source):
        x = getX(px)
        y = getY(px)
        if (getRed(px)>=255 and getGreen(px)>=255 and getBlue(px)>=255):
            bgpx = getPixel(bg,x,y)
            bgcol = getColor(bgpx)
            setColor(px,bgcol)
    return(source)
```