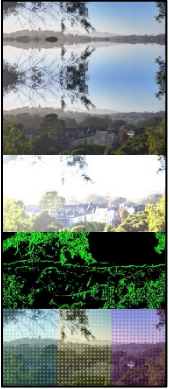


Cooper Smolek

Completed

Original



```
#Cooper Smolek "Heart of the Bay" 02/29/2020
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```
def paste(pic,newpic,startY): #Main pasting function
    targetX = 0
    for x in range(0,getWidth(pic)):
        targetY = startY
        for y in range(0,getHeight(pic)):
            setColor(getPixel(newpic,targetX,targetY),getColor(getPixel(pic,x,y)))
            targetY = targetY + 1
        targetX = targetX + 1
```

```
def mirror(newpic,startY,endY): #1st image mirror
    mirrorPoint = 300
    for x in range(0,getWidth(newpic)):
        for y in range(startY,mirrorPoint):
            topPixel = getPixel(newpic,x,endY-y-1)
            bottomPixel = getPixel(newpic,x,y)
            setColor(topPixel,getColor(bottomPixel))
```

```
def lighten(newpic,startY,endY): #3rd image lighten
    for x in range(0,getWidth(newpic)):
        for y in range(startY,endY):
            px = getPixel(newpic,x,y)
            color = makeLighter(makeLighter(makeLighter(getColor(px))))
            setColor(px,color)
```

```
def luminance(pixel): #Needed for line
    r = getRed(pixel)
    g = getGreen(pixel)
    b = getBlue(pixel)
    return (r+g+b)/3
```

```
def line(pic,newpic,startY,endY): #4th image line drawing
    for px in getPixels(newpic):
        x = getX(px)
        y = getY(px)
        if y > startY-1 and y < endY-1 and x < getWidth(newpic)-1:
            botrt = getPixel(newpic,x+1,y+1)
```

```

    thislum = luminance(px)
    brlum = luminance(botrt)
    if abs(brlum-thislum) > 15:
        setColor(px,green)
    if abs(brlum-thislum) <= 15:
        setColor(px,black)

def grid(newpic,startY,endY): #5th image grid
    for x in range(0,getWidth(newpic)/3,3):
        for y in range(startY,endY,3):
            setColor(getPixel(newpic,x,y),cyan)
    for x in range(getWidth(newpic)/3,(getWidth(newpic)/3)*2,3):
        for y in range(startY,endY,3):
            setColor(getPixel(newpic,x,y),yellow)
    for x in range((getWidth(newpic)/3)*2,getWidth(newpic),3):
        for y in range(startY,endY,3):
            setColor(getPixel(newpic,x,y),magenta)

def collage(): #Outputs project
    pic=makePicture(getMediaPath("sanfran.jpg"))
    newpic = makeEmptyPicture(423,1000)
    paste(pic,newpic,0)
    paste(pic,newpic,200)
    mirror(newpic,200,400)
    paste(pic,newpic,400)
    lighten(newpic,400,600)
    paste(pic,newpic,600)
    line(pic,newpic,600,800)
    paste(pic,newpic,800)
    grid(newpic,800,1000)
    show(newpic)

```