

1)

```
def changeColor(img, amt, rgbNum):
    if rgbNum ==1:#red
        for px in getPixels(img):
            setColor(px, makeColor(getRed(px)-(getRed(px)*amt), getGreen(px), getBlue(px)))
    elif rgbNum ==2:#green
        for px in getPixels(img):
            setColor(px, makeColor(getRed(px), getGreen(px)-(getGreen(px)*amt), getBlue(px)))
    elif rgbNum ==3:#blue
        for px in getPixels(img):
            setColor(px, makeColor(getRed(px), getGreen(px), getBlue(px)-(getBlue(px)*amt)))
    else:
        print("That ain't right")
```

2)

```
def posterize8(img):
    for px in getPixels(img):
        newR = newG = newB = 0
        if getRed(px) >= 100:
            newR = 255
        if getGreen(px) >= 100:
            newG = 255
        if getBlue(px) >= 100:
            newB = 255
        setColor(px, makeColor(newR, newG, newB))
```

3)

```
def border(img, w, col):
    maxH = getHeight(p)
    maxW = getWidth(p)
    for px in getPixels(p):
        if getY(px)>=0and getY(px)<=w:
            setColor(px, col)
        elif getY(px)>=maxH-w and getY(px)<=maxH:
            setColor(px, col)
        elif getX(px)>=0and getX(px)<=w:
            setColor(px, col)
        elif getX(px)>=maxW-w and getX(px)<=maxW:
            setColor(px, col)
```

4)

```
def xyLine(img, col):
    for px in getPixels(img):
        if getX(px) == getY(px):
            setColor(px, col)
    #no need to overcomplicate things
```

5)

```

def quads(img, col):
    for px in getPixels(img):
        if getX(px)==getWidth(img)/2:
            setColor(px, col)
        elif getY(px)==getHeight(img)/2:
            setColor(px, col)

```

6)

```

def cheesingIt(img, col):
    addLine(img, 0, getHeight(img)-1, getWidth(img)-1, 0, col)
    #didn't want to miss an opportunity to do this. sorry.

```

7)

```

def posterize3(img):
    for px in getPixels(img):
        newCol = ""
        if getRed(px) > 180:
            newCol = makeColor(255,0,0)
        elif getGreen(px) > 180:
            newCol = makeColor(0,255,0)
        elif getBlue(px) > 180:
            newCol = makeColor(0,0,255)
        else:
            newCol = makeColor(0,0,0)
        setColor(px, newCol)

```

8)

```

def pinkify(img):
    for px in getPixels(img):
        if getRed(px)>100 and getGreen(px)>100 and getBlue(px)>100:
            setColor(px, makeColor(255,192,203))

```

9)

```

def downUpRed(img):
    for px in getPixels(img):
        if getX(px) < getWidth(img)/2:
            setColor(px, makeColor(getRed(px)/2, getGreen(px), getBlue(px)))
        else:
            setColor(px, makeColor(getRed(px)*2, getGreen(px), getBlue(px)))

```

10)

```

def thirds(img):
    for px in getPixels(img):
        if getY(px) < getHeight(img)*0.33:#top, lighter
            setColor(px,makeColor(makeLighter(getColor(px))))
        elif getY(px) < getHeight(img)*0.66:#middle, decrease R and G
            setColor(px, makeColor(getRed(px)-getRed(px)*0.3, getGreen(px)-getGreen(px)*0.3,
getBlue(px)))
        else:#bottom, negate

```

```
setColor(px, makeColor(255-getRed(px), 255-getGreen(px), 255-getBlue(px)))
```