

# Ian Kidd

Completed



Original



#Ian Kidd created on March 3<sup>rd</sup>

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def collage():
    canvas = makeEmptyPicture(1000,736)
    pic = makePicture(getMediaPath("beach.jpg"))
    cutPicture(pic,canvas)
    mirrorW(canvas)
    mirrorH(canvas)
    copyPicture1(pic,canvas)
    copyPicture2(pic,canvas)
    copyPicture3(pic,canvas)
    copyPicture4(pic,canvas)
    copyPicture5(pic,canvas)
    adjustments1(canvas,339,248,658,487)
    adjustments2(canvas,709,69,868,188)
    adjustments3(canvas,129,69,288,188)
    adjustments4(canvas,129,546,288,665)
    adjustments5(canvas,709,546,868,665)
    explore(canvas)
#these next three I used to make the background
def mirrorW(picture):
    mirrorPoint = getWidth(picture)/2
    width = getWidth(picture)
    for y in range(0,getHeight(picture)):
        for x in range(0,mirrorPoint):
            leftPixel = getPixel(picture,x,y)
            rightPixel = getPixel(picture,width - x - 1,y)
            color = getColor(leftPixel)
            setColor(rightPixel,color)
def mirrorH(picture):
    mirrorPoint = getHeight(picture)/2
    width = getWidth(picture)
    for x in range(0,width):
        for y in range(0,mirrorPoint):
            topPixel = getPixel(picture,x,y)
            bottomPixel = getPixel(picture,x,getHeight(picture)-y-1)
            color = getColor(topPixel)
            setColor(bottomPixel,color)
def cutPicture(source,canvas):
    TargetX = 0
    for SourceX in range(0, 500):
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    TargetY = 0
    for SourceY in range(0,368):
        color = getColor(getPixel(source,SourceX,SourceY))
        setColor(getPixel(canvas,TargetX,TargetY),color)
        TargetY = TargetY + 1
    TargetX = TargetX + 1

# a lot of final touches
def copyPicture1(source,canvas):
    TargetX = 339
    for SourceX in range(0,getWidth(source),2):
        TargetY = 248
        for SourceY in range(0,getHeight(source),2):
            color = getColor(getPixel(source,SourceX,SourceY))
            setColor(getPixel(canvas,TargetX,TargetY),color)
            TargetY = TargetY + 1
        TargetX = TargetX + 1

def copyPicture2(source,canvas):
    TargetX = 129
    for SourceX in range(0,getWidth(source),4):
        TargetY = 69
        for SourceY in range(0,getHeight(source),4):
            color = getColor(getPixel(source,SourceX,SourceY))
            setColor(getPixel(canvas,TargetX,TargetY),color)
            TargetY = TargetY + 1
        TargetX = TargetX + 1

def copyPicture3(source,canvas):
    TargetX = 129
    for SourceX in range(0,getWidth(source),4):
        TargetY = 546
        for SourceY in range(0,getHeight(source),4):
            color = getColor(getPixel(source,SourceX,SourceY))
            setColor(getPixel(canvas,TargetX,TargetY),color)
            TargetY = TargetY + 1
        TargetX = TargetX + 1

def copyPicture4(source,canvas):
    TargetX = 709
    for SourceX in range(0,getWidth(source),4):
        TargetY = 69
        for SourceY in range(0,getHeight(source),4):
            color = getColor(getPixel(source,SourceX,SourceY))
            setColor(getPixel(canvas,TargetX,TargetY),color)
            TargetY = TargetY + 1
        TargetX = TargetX + 1

def copyPicture5(source,canvas):
    TargetX = 709
    for SourceX in range(0,getWidth(source),4):
        TargetY = 546
        for SourceY in range(0,getHeight(source),4):
            color = getColor(getPixel(source,SourceX,SourceY))
            setColor(getPixel(canvas,TargetX,TargetY),color)
            TargetY = TargetY + 1
        TargetX = TargetX + 1

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def mirror(picture):
    mirrorPoint = getWidth(picture)/2
    for y in range(0,getHeight(picture)):
        for x in range(0,mirrorPoint/2):
            leftPixel = getPixel(picture,x,y)
            rightPixel = getPixel(picture,getWidth(picture) - x - 1,y)
            color = getColor(leftPixel)
            setColor(rightPixel,color)

def adjustments1(picture,startX,startY,endX,endY):
    for p in getPixels(picture):
        if startX <= getX(p) <= endX and startY <= getY(p) <= endY:
            r = getRed(p)
            g = getGreen(p)
            b = getBlue(p)
            setColor(p,makeColor(255-r,255-g,255-b))
    return(picture)

def adjustments2(picture,startX,startY,endX,endY):
    for p in getPixels(picture):
        if startX <= getX(p) <= endX and startY <= getY(p) <= endY:
            r = getRed(p)
            g = getGreen(p)
            b = getBlue(p)
            grayScale = (r+g+b)/3
            setColor(p,makeColor(grayScale,grayScale,grayScale))
    return(picture)

def adjustments3(picture,startX,startY,endX,endY):
    for p in getPixels(picture):
        if startX <= getX(p) <= endX and startY <= getY(p) <= endY:
            r = getRed(p)
            g = getGreen(p)
            b = getBlue(p)
            setColor(p,makeColor(b,g,r))
    return(picture)

def adjustments4(picture,startX,startY,endX,endY):
    for p in getPixels(picture):
        if startX <= getX(p) <= endX and startY <= getY(p) <= endY:
            r = getRed(p)
            g = getGreen(p)
            b = getBlue(p)
            color = getColor(p)
            color = makeDarker(makeDarker(color))
            setColor(p,color)
    return(picture)

def adjustments5(picture,startX,startY,endX,endY):
    for p in getPixels(picture):
        if startX <= getX(p) <= endX and startY <= getY(p) <= endY:
            r = getRed(p)
            g = getGreen(p)
            b = getBlue(p)
            luminance = (r+g+b)/3
            if luminance < 50:
                setColor(p,black)
            if luminance >= 50 and luminance <= 165:

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    setColor(p,gray)
  if luminance > 165:
    setColor(p,white)
return(picture)
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