

# Missy Riegle

Completed



Originals



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# Missy Riegle - Project 2 - 03/10/2023
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def collage():  
    setMediaPath()  
    goldenGate=makePicture(getMediaPath("goldenGate.jpg"))  
    liberty=makePicture(getMediaPath("liberty.jpg"))  
    mlk=makePicture(getMediaPath("mlk.jpg"))  
    mtRushmore=makePicture(getMediaPath("mtRushmore.jpg"))  
    lincoln=makePicture(getMediaPath("lincoln.jpg"))  
    goldenGate2=makePicture(getMediaPath("goldenGate.jpg"))  
    liberty2=makePicture(getMediaPath("liberty.jpg"))  
    mlk2=makePicture(getMediaPath("mlk.jpg"))  
    mtRushmore2=makePicture(getMediaPath("mtRushmore.jpg"))  
    lincoln2=makePicture(getMediaPath("lincoln.jpg"))  
    goldenGate3=makePicture(getMediaPath("goldenGate.jpg"))  
    liberty3=makePicture(getMediaPath("liberty.jpg"))  
    mlk3=makePicture(getMediaPath("mlk.jpg"))  
    mtRushmore3=makePicture(getMediaPath("mtRushmore.jpg"))  
    lincoln3=makePicture(getMediaPath("lincoln.jpg"))  
    goldenGate4=makePicture(getMediaPath("goldenGate.jpg"))  
    liberty4=makePicture(getMediaPath("liberty.jpg"))  
    mlk4=makePicture(getMediaPath("mlk.jpg"))  
    mtRushmore4=makePicture(getMediaPath("mtRushmore.jpg"))  
    lincoln4=makePicture(getMediaPath("lincoln.jpg"))  
    signature=makePicture(getMediaPath("signature.jpg"))  
    width=getWidth(goldenGate)+getWidth(liberty)+getWidth(mlk)+getWidth(mtRushmore)+getWidth(lincoln)  
    backround=makeEmptyPicture(width,5*getHeight(goldenGate),white)  
    copy(goldenGate,backround,0,0)
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copy(liberty,background,getWidth(goldenGate),0)
copy(mlk,background,getWidth(goldenGate)+getWidth(liberty),0)
copy(mtRushmore,background,getWidth(goldenGate)+getWidth(liberty)+getWidth(mlk),0)
copy(lincoln,background,getWidth(goldenGate)+getWidth(liberty)+getWidth(mlk)+getWidth(mtRushmore),0)
grayScale(lincoln)
copy(lincoln,background,0,getHeight(goldenGate))
grayScale(mtRushmore)
copy(mtRushmore,background,getWidth(lincoln),getHeight(goldenGate))
grayScale(mlk)
copy(mlk,background,getWidth(mtRushmore)+getWidth(lincoln),getHeight(goldenGate))
grayScale(liberty)
copy(liberty,background,getWidth(mtRushmore)+getWidth(mlk)+getWidth(lincoln),getHeight(goldenGate))
grayScale(goldenGate)
copy(goldenGate,background,getWidth(mtRushmore)+getWidth(mlk)+getWidth(liberty)+getWidth(lincoln), ←
    getHeight(goldenGate))
posterize(goldenGate2)
copy(goldenGate2,background,0,getHeight(goldenGate)*2)
posterize(liberty2)
copy(liberty2,background,getWidth(goldenGate),getHeight(goldenGate)*2)
posterize(mlk2)
copy(mlk2,background,getWidth(goldenGate)+getWidth(liberty),getHeight(goldenGate)*2)
posterize(mtRushmore2)
copy(mtRushmore2,background,getWidth(goldenGate)+getWidth(liberty)+getWidth(mlk),getHeight(goldenGate)*2)
posterize(lincoln2)
copy(lincoln2,background,getWidth(goldenGate)+getWidth(liberty)+getWidth(mlk)+getWidth(mtRushmore), ←
    getHeight(goldenGate)*2)
mirrorPix(lincoln3)
copy(lincoln3,background,0,getHeight(goldenGate)*3)
mirrorPix(mtRushmore3)
copy(mtRushmore3,background,getWidth(lincoln),getHeight(goldenGate)*3)
mirrorPix(mlk3)
copy(mlk3,background,getWidth(lincoln)+getWidth(mtRushmore),getHeight(goldenGate)*3)
mirrorPix(liberty3)
copy(liberty3,background,getWidth(lincoln)+getWidth(mtRushmore)+getWidth(mlk),getHeight(goldenGate)*3)
mirrorPix(goldenGate3)
copy(goldenGate3,background,getWidth(lincoln)+getWidth(mtRushmore)+getWidth(mlk)+getWidth(liberty), ←
    getHeight(goldenGate)*3)
mirrorHorizontal(goldenGate3)
copy(goldenGate3,background,0,getHeight(goldenGate)*4)
mirrorHorizontal(liberty3)
copy(liberty3,background,getWidth(goldenGate3),getHeight(goldenGate)*4)
mirrorHorizontal(mlk3)
copy(mlk3,background,getWidth(goldenGate3)+getWidth(liberty3),getHeight(goldenGate)*4)

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mirrorHorizontal(mtRushmore3)
copy(mtRushmore3,background,getWidth(goldenGate3)+getWidth(liberty3)+getWidth(mlk3),getHeight(goldenGate)*4)
mirrorHorizontal(lincoln3)
copy(lincoln3,background,getWidth(goldenGate3)+getWidth(liberty3)+getWidth(mlk3)+getWidth(mtRushmore3), ←
    getHeight(goldenGate)*4)
pic2=background
pic1=makePicture(getMediaPath("flag.jpg"))
copy2(0,pic1,pic2)
copy2(1,pic1,pic2)
chromakey(signature,pic1)
width=getWidth(signature)
height=getHeight(signature)
background2=makeEmptyPicture(width,height+getHeight(goldenGate4))
copy(signature,background2,0,0)
copy(lincoln4,background2,0,getHeight(goldenGate4)*5)
copy(mtRushmore4,background2,getWidth(lincoln4),getHeight(goldenGate4)*5)
copy(mlk4,background2,getWidth(lincoln4)+getWidth(mtRushmore4),getHeight(goldenGate4)*5)
copy(liberty4,background2,getWidth(lincoln4)+getWidth(mtRushmore4)+getWidth(mlk4),getHeight(goldenGate4)*5)
copy(goldenGate4,background2,getWidth(lincoln4)+getWidth(mtRushmore4)+getWidth(mlk4)+getWidth(liberty4), ←
    getHeight(goldenGate4)*5)
border(background2,0,10)
border(background2,100,110)
border(background2,200,210)
border(background2,300,310)
border(background2,400,410)
border(background2,500,510)
border(background2,590,600)
explore(background2)

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

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def posterize(picture):
    for p in getPixels(picture):
        r=getRed(p)

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    g=getGreen(p)
    b=getBlue(p)
    luminance=(r+g+b)/3
    if luminance < 100:
        setColor(p,black)
    else:
        setColor(p,white)

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

def copy2(start,source,destination):
    for x in range(start,getWidth(source),2):
        for y in range(start,getHeight(source),2):
            px=getPixel(source,x,y)
            newPx=getPixel(destination,x,y)
            color=getColor(px)
            color2=getColor(newPx)
            setColor(px,color2)

def border(source,start,stop):
    for x in range(0,getWidth(source),3):
        for y in range(start,stop):
            px=getPixel(source,x,y)
            color=red
            setColor(px,color)
    for x in range(1,getWidth(source),3):
        for y in range(start,stop):
            px=getPixel(source,x,y)
            color=white
            setColor(px,color)
    for x in range(2,getWidth(source),3):
        for y in range(start,stop):
            px=getPixel(source,x,y)
            color=blue
            setColor(px,color)

def mirrorPix(picture):
    mirrorPoint = getWidth(picture) / 2
    width = getWidth(picture)
    for y in range(0,getHeight(picture)):

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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 mirrorHorizontal (picture):
    mirrorPoint=getHeight (picture)/2
    height = getHeight (picture)
    for x in range(0,getWidth (picture)):
        for y in range(0,mirrorPoint):
            topPixel=getPixel (picture,x,y)
            bottomPixel=getPixel (picture,x,height-y-1)
            color = getColor (topPixel)
            setColor (bottomPixel,color)

def chromakey (signature,background):
    for px in getPixels (signature):
        x=getX (px)
        y=getY (px)
        if (getRed (px) > 45 and getGreen (px) > 45 and getBlue (px) > 45 ):
            backPx=getPixel (background,x,y)
            backCol=getColor (backPx)
            setColor (px,backCol)
    return signature

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