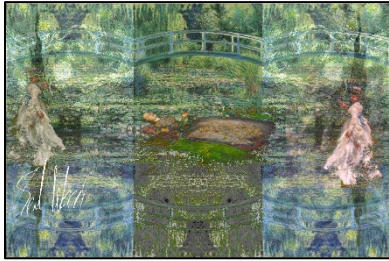


Sol Wozniak

Completed



Originals



```
# Sol Wozniak 10/13/2022
#The following programs uses Claude Monet's "The Water-Lily Pond" 1899
#Vincent VanGogh's "Starry Night"
#John Everett Millais' "Ophelia"
# and Pierre-Auguste Renoir's "La Promenade"
```

```
def collage():
    setMediaPath()
    monet=makePicture(getMediaPath("waterlillies.jpg"))
    lady=makePicture(getMediaPath("lady.jpg"))
    vangogh=makePicture(getMediaPath("starrynight.jpg"))
    ophelia=makePicture(getMediaPath("ophelia.jpg"))
    solsig=makePicture(getMediaPath("123signature.jpg"))
    smallMonet=sizeDown(monet,5)
    mirrorMonet=sizeDown(monet,5)
    smallLady=sizeDown(lady,5)
    smallVan=sizeDown(vangogh,5)
    postVan=sizeDown(vangogh,5)
    smallOphelia=sizeDown(ophelia,5)
    shadowOphelia=sizeDown(ophelia,5)
    smallMHeight=getHeight(smallMonet)
    smallMWidth=getWidth(smallMonet)
    canvas=makeEmptyPicture(smallMWidth*3,smallMHeight*2)
    #Panel 1
    mirrorMonet=vertMirror(mirrorMonet)
    addPicture(mirrorMonet,canvas,0,0)
    #Panel 3
    addPicture(smallMonet,canvas,smallMWidth*2,0)
    #posterize Section
```

```

posterize(postVan)
blend(postVan, canvas, 0, 0)
postVan=flipRightSide(postVan)
blend(postVan, canvas, ((smallMWidth*3)-getWidth(postVan)), 0)
# end posterize Section
addPicture(smallMonet, canvas, smallMWidth, 0)
upsideDownMonet=flipUpsideDown(mirrorMonet)
purpleVan=sizeDown(vangogh, 5)
purplify(purpleVan)
purpleVan=flipUpsideDown(purpleVan)
addPicture(upsideDownMonet, canvas, 0, smallMHeight)
blend(purpleVan, canvas, 0, smallMHeight)
addPicture(upsideDownMonet, canvas, smallMWidth*2, smallMHeight)
blend(flipRightSide(purpleVan), canvas, smallMWidth*3-(getWidth(purpleVan)), smallMHeight)
posterize(upsideDownMonet)
darken(upsideDownMonet)
addPicture(upsideDownMonet, canvas, smallMWidth, smallMHeight)
#Adding the girlies
darken(shadowOphelia)
purplify(shadowOphelia)
keepOphelia(shadowOphelia, canvas, 225, (smallMHeight/2)+30)
keepOphelia(smallOphelia, canvas, 225, smallMHeight/2)
smallLady=keepLady(smallLady, canvas, 0, 100, 0, 94)
oppositeLady=flipRightSide(smallLady)
purplify(oppositeLady)
keepLady(oppositeLady, canvas, smallMWidth*3/2+200, smallMHeight/2, 125, getWidth(oppositeLady))
blend(oppositeLady, canvas, smallMWidth*3/2+200, smallMHeight/2)
chromaSig(solsig, canvas, 0, 300)
show(canvas)
writePictureTo(canvas, "Sol_WozniakCollageProject3.jpg")

```

```

def addPicture(pic, collage, startx, starty):
    targx=startx
    for x in range(0, getWidth(pic)):
        targy=starty
        for y in range(0, getHeight(pic)):
            picPix=getPixel(pic, x, y)
            picColor=getColor(picPix)
            targPix=getPixel(collage, targx, targy)
            setColor(targPix, picColor)
            targy+=1
        targx+=1

```

```

def keepLady(pic,target, startx,starty,xrangeStart,xrangeEnd):
    targy=starty
    for y in range(getHeight(pic)):
        targx=startx
        for x in range(0,getWidth(pic)):
            targPix=getPixel(target,x+targx+1,y+targy+1)
            pix=getPixel(pic,x,y)
            pixColor=getColor(pix)
            if distance(pixColor,white)<200:
                setColor(targPix,pixColor)
    targy=starty
    for y in range(0,getHeight(pic)):
        targx=startx
        for x in range(xrangeStart,xrangeEnd):
            targPix=getPixel(target,x+targx+1,y+targy+1)
            pix=getPixel(pic,x,y)
            pixColor=getColor(pix)
            if distance(pixColor,black)>100:
                setColor(targPix,pixColor)
    return(pic)

```

```

def keepOphelia(pic,canvas,startx,starty):
    targy=starty
    for y in range(93,getHeight(pic)):
        targx=startx
        for x in range(80,getWidth(pic)):
            targPix=getPixel(canvas,x+targx,y+targy)
            pix=getPixel(pic,x,y)
            pixColor=getColor(pix)
            if distance(pixColor,black)>90:
                setColor(targPix,pixColor)

```

```

def vertMirror(pic):
    width=getWidth(pic)
    height=getHeight(pic)
    vertex=width/2
    for y in range(0,height):
        x=0
        for x in range(0,vertex):
            pixColor=getColor(getPixel(pic,x,y))

```

```
    targPix=getPixel(pic,width-x-1,y)
    setColor(targPix,pixColor)
return(pic)
```

```
def sizeDown(pic,scaling):
    height=getHeight(pic)
    width=getWidth(pic)
    targx=0
    newImage=makeEmptyPicture(width/scaling,height/scaling)
    for sourceX in range(0,width,scaling):
        targy=0
        for sourceY in range(0,height,scaling):
            sourcePix=getPixel(pic,sourceX,sourceY)
            sourceColor=getColor(sourcePix)
            setColor(getPixel(newImage,targx,targy),sourceColor)
            targy=targy+1
        targx=targx+1
    return(newImage)
```

```
def posterize(pic):
    for p in getPixels(pic):
        color=getColor(p)
        rcolor=getRed(p)
        gcolor=getGreen(p)
        bcolor=getBlue(p)
        luminance=(rcolor+bcolor+gcolor)/3
        if luminance<45:
            setColor(p,black)
        elif luminance>140:
            setColor(p,white)
        elif (luminance>45) and (luminance<100): #Greenify
            color=makeColor(gcolor+50)
            setColor(p,color)
        else: #To make Yellow
            color=(bcolor-50)
            setBlue(p,color)
```

```
def blend(pic,canvas,targx,targy):
    tx=targx
    for x in range(0,getWidth(pic)):
        if tx>=getWidth(canvas):
            break
    ty=targy
```

```

for y in range(0,getHeight(pic)):
    if (ty>=getHeight(canvas)):
        continue
    picPix=getPixel(pic,x,y)
    canPix=getPixel(canvas,tx,ty)
    newRed= 0.5*getRed(picPix)+0.8*getRed(canPix)
    newGreen=0.5*getGreen(picPix)+0.8*getGreen(canPix)
    newBlue=0.5*getBlue(picPix)+0.8*getBlue(canPix)
    color=makeColor(newRed,newGreen,newBlue)
    setColor(canPix,color)
    ty+=1
tx+=1

def flipUpsideDown(pic):
    height=getHeight(pic)
    width=getWidth(pic)
    targx=0
    newImage=makeEmptyPicture(width,height)
    for x in range(0,width):
        targy=height-1
        for y in range(0,height):
            pixColor=getColor(getPixel(pic,x,y))
            targPix=getPixel(newImage,x,targy)
            setColor(targPix,pixColor)
            targy-=1
        targx+=1
    return (newImage)

def flipRightSide(pic):
    height=getHeight(pic)
    width=getWidth(pic)
    targy=0
    newImage=makeEmptyPicture(width,height)
    for y in range(0,height):
        targx=width-1
        for x in range(0,width):
            pixColor=getColor(getPixel(pic,x,y))
            targPix=getPixel(newImage,targx,y)
            setColor(targPix,pixColor)
            targx-=1
        targy+=1
    return (newImage)

```

```
def purplify(pic):
    for x in range(getWidth(pic)):
        y=0
        for y in range(getHeight(pic)):
            ogPix=getPixel(pic,x,y)
            ogGreen=getGreen(ogPix)
            newGreen=(ogGreen-20)
            setGreen(ogPix,newGreen)

def luminance(pixel):
    r=getRed(pixel)
    g=getGreen(pixel)
    b=getBlue(pixel)
    return (r+g+b)/3

def chromaSig(sig,bg, setx, sety):
    bgx=setx
    for x in range(getWidth(sig)):
        bgy=sety
        for y in range(getHeight(sig)):
            sigPix=getPixel(sig,x,y)
            sigColor=getColor(sigPix)
            if distance(sigColor,black)<255:
                targPix=getPixel(bg,bgx,bgy)
                setColor(targPix,white)
            bgy+=1
        bgx+=1

def darken(pic):
    for pix in getPixels(pic):
        color=getColor(pix)
        newColor=makeDarker(color)
        setColor(pix,newColor)

collage()
```