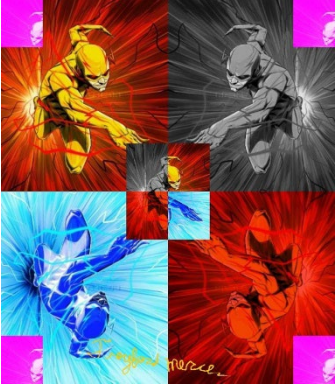# Treyford Mercer

Completed: Original:


```
#Treyford Mercer
#Project 2

#I received permission to use this image from it's creator, Edgar Siles, on the
website, ArtStation.com
def collage():
  speedster=getPicture1()
  flippedPic=flipped(speedster)
  negativePic2=negative(speedster)
  negativePic=negative(flippedPic)
  grayPic=grayScale(speedster)
  reversePic=reverse(speedster)
  reverseGrayPic=reverse(grayPic)
  flippedReversePic=flipped(reversePic)
  makeSunsetPic=makeSunset(flippedReversePic)
  makeSunsetPic2=makeSunset(speedster)
  scalePictureDown=scaleDown(speedster)
  negativeFlipped=scaleDown2(negativePic2)
  grayScaleDown=scaleDown3(grayPic)
  sunsetPicScaled=scaleDown4(makeSunsetPic2)
  pinkPicture=pinkPic2(reversePic)
  pinkPicture2=pinkPic2(flippedReversePic)
  corner=scaleDown3(pinkPicture)
  corner2=pinkPic2(corner)
  signature= getPicture2()
  canvas= makeEmptyPicture(2*getWidth(speedster), 2*getHeight(speedster))
  startX=0; startY=0
  copy(speedster, canvas, 0, 0)
  startY= getHeight(speedster); startX=0
  copy(negativePic, canvas, startX, startY)
  startY=0; startX=getWidth(speedster)
  copy(reverseGrayPic, canvas, startX, startY)
  startY=getHeight(speedster); startX=getWidth(speedster)
  copy(makeSunsetPic, canvas, startX, startY)
  startX=240;startY=300
  copy(negativeFlipped, canvas, startX, startY)
  startX=240; startY=300
  copy(scalePictureDown, canvas, startX, startY)
  startX=240; startY=300
  copy(sunsetPicScaled, canvas, startX, startY)
  startX=240; startY=300
  copy(grayScaleDown, canvas, startX, startY)
```

```
    startX=0; startY=0
    copy(corner2, canvas, startX, startY)
    startX=560; startY=0
    copy(corner2, canvas, startX, startY)
    startX=560; startY=700
    copy(corner2, canvas, startX, startY)
    startX=0; startY=700
    copy(corner2, canvas, startX, startY)
    startX=150; startY=695
    chromakeySig(signature, canvas, startX, startY)

    show (canvas)

def getPicture1():
    setMediaPath()
    picObject = makePicture(getMediaPath("Original.jpg"))
    return picObject
def getPicture2():
    setMediaPath()
    pic= makePicture(getMediaPath("signature.jpg"))
    return pic

def chromakeySig(sourcePic, canvas, targetX, targetY):
    for sX in range(0, getWidth(sourcePic)):
        for sY in range(0, getHeight(sourcePic)):
            sPx = getPixelAt(sourcePic, sX, sY)
            sColor = getColor(sPx)
            targetPx = getPixelAt(canvas, sX + targetX, sY + targetY)
            if distance (black, sColor) < 180:
                setColor(targetPx, orange)

def pinkPic2(flippedReversePic):
    newPic=duplicatePicture(flippedReversePic)
    for px in getAllPixels(newPic):
        redValue=getRed(px)
        greenValue=getGreen(px)
        blueValue=getBlue(px)
        setGreen(px, greenValue)
        setBlue(px, blueValue+255)
        setRed(px, redValue+255)
    return newPic

def pinkPic(speedster):
    newPic=duplicatePicture(speedster)
    for px in getAllPixels(newPic):
        redValue=getRed(px)
        greenValue=getGreen(px)
        blueValue=getBlue(px)
        setGreen(px, greenValue)
        setBlue(px, blueValue+255)
        setRed(px, redValue+255)
    return newPic

def corner():
    source=duplicatePicture(grayPic)
    width=getWidth(source) /4
    height=getHeight(source)/4
    targetPic=makeEmptyPicture(width, height,white)
    sourceX = 0
    for targetX in range(0, int(getWidth(source) /4)):
```

```
      sourceY = 0
      for targetY in range(0, int(getHeight(source)) /4):
        sourcePx=getPixel(source, int(sourceX), int(sourceY))
        sourceColor=getColor(sourcePx)
        targetPx=getPixelAt(targetPic, targetX, targetY)
        setColor(targetPx, sourceColor)
        sourceY=sourceY+ 1.0/0.5
      sourceX=sourceX+ 1.0/0.5
  return targetPic

def makeSunset(flippedReversePic):
  newPic=duplicatePicture(flippedReversePic)
  for px in getAllPixels(newPic):
    redValue=getRed(px)
    greenValue=getGreen(px)
    blueValue=getBlue(px)
    setGreen(px, greenValue*0.3)
    setBlue(px, blueValue*0.3)
  return newPic

def scaleDown4(makeSunsetPic2):
  source=duplicatePicture(makeSunsetPic2)
  width=getWidth(source) /4
  height=getHeight(source)/2
  targetPic=makeEmptyPicture(width, height,white)
  sourceX = 0
  for targetX in range(0, int(getWidth(source) /4)):
    sourceY = 0
    for targetY in range(0, int(getHeight(source)) /2):
      sourcePx=getPixel(source, int(sourceX), int(sourceY))
      sourceColor=getColor(sourcePx)
      targetPx=getPixelAt(targetPic, targetX, targetY)
      setColor(targetPx, sourceColor)
      sourceY=sourceY+ 1.0/0.5
    sourceX=sourceX+ 1.0/0.5
  return targetPic

def scaleDown3(grayPic):
  source=duplicatePicture(grayPic)
  width=getWidth(source) /4
  height=getHeight(source)/4
  targetPic=makeEmptyPicture(width, height,white)
  sourceX = 0
  for targetX in range(0, int(getWidth(source) /4)):
    sourceY = 0
    for targetY in range(0, int(getHeight(source)) /4):
      sourcePx=getPixel(source, int(sourceX), int(sourceY))
      sourceColor=getColor(sourcePx)
      targetPx=getPixelAt(targetPic, targetX, targetY)
      setColor(targetPx, sourceColor)
      sourceY=sourceY+ 1.0/0.5
    sourceX=sourceX+ 1.0/0.5
  return targetPic

def scaleDown2(negativePic):
  source=duplicatePicture(negativePic)
  width=getWidth(source) /2
  height=getHeight(source)/2
  targetPic=makeEmptyPicture(width, height,white)
  sourceX = 0
```

```
    for targetX in range(0, int(getWidth(source) /2)):
      sourceY = 0
      for targetY in range(0, int(getHeight(source)) /2):
        sourcePx=getPixel(source, int(sourceX), int(sourceY))
        sourceColor=getColor(sourcePx)
        targetPx=getPixelAt(targetPic, targetX, targetY)
        setColor(targetPx, sourceColor)
        sourceY=sourceY+ 1.0/0.5
      sourceX=sourceX+ 1.0/0.5
    return targetPic

def scaleDown(makeSunsetPic):
  source=duplicatePicture(makeSunsetPic)
  width=getWidth(source) /2
  height=getHeight(source)/4
  targetPic=makeEmptyPicture(width, height,white)
  sourceX = 0
  for targetX in range(0, int(getWidth(source) /2)):
    sourceY = 0
    for targetY in range(0, int(getHeight(source)) /4):
      sourcePx=getPixel(source, int(sourceX), int(sourceY))
      sourceColor=getColor(sourcePx)
      targetPx=getPixelAt(targetPic, targetX, targetY)
      setColor(targetPx, sourceColor)
      sourceY=sourceY+ 1.0/0.5
    sourceX=sourceX+ 1.0/0.5
  return targetPic

def reverse(grayPic):
  width=getWidth(grayPic)
  height=getHeight(grayPic)
  targetPic=makeEmptyPicture(width, height,white)
  targetX = width-1
  for x in range(0, getWidth(grayPic)):
    targetY = 0
    for y in range(0, getHeight(grayPic)):
      pixel = getPixelAt(grayPic,x,y)
      tx = getPixel(targetPic,targetX,targetY)
      setColor(tx,getColor(pixel))
      targetY = targetY+1
    targetX = targetX-1
  return (targetPic)

def flipped(speedster):
  newPic=duplicatePicture(speedster)
  width = getWidth(newPic)
  height = getHeight(newPic)
  for y in range(0, height/2):
    for x in range(0, width):
      sourcePixel = getPixel(newPic, x, y)
      targetPixel = getPixel(newPic, x, height - y - 1)
      color = getColor(sourcePixel)
      setColor(sourcePixel, getColor(targetPixel))
      setColor(targetPixel, color)
  return(newPic)

def flippedReverse(reversePic):
  newPic=duplicatePicture(reversePic)
  width = getWidth(newPic)
  height = getHeight(newPic)
```

```
    for y in range(0, height/2):
      for x in range(0, width):
        sourcePixel = getPixel(newPic, x, y)
        targetPixel = getPixel(newPic, x, height - y - 1)
        color = getColor(sourcePixel)
        setColor(sourcePixel, getColor(targetPixel))
        setColor(targetPixel, color)
    return(newPic)

def negative2(speedster):
  newPic=duplicatePicture(speedster)
  for px in getAllPixels(newPic):
    redValue=getRed(px)
    greenValue=getGreen(px)
    blueValue=getBlue(px)
    negativeColor=makeColor(255-redValue, 255-greenValue, 255-blueValue)
    setColor(px, negativeColor)
  return newPic

def negative(flippedPic):
  newPic=duplicatePicture(flippedPic)
  for px in getAllPixels(newPic):
    redValue=getRed(px)
    greenValue=getGreen(px)
    blueValue=getBlue(px)
    negativeColor=makeColor(255-redValue, 255-greenValue, 255-blueValue)
    setColor(px, negativeColor)
  return newPic

def grayScale(speedster):
  newPic=duplicatePicture(speedster)
  for px in getAllPixels(newPic):
    redValue=getRed(px)
    greenValue=getGreen(px)
    blueValue=getBlue(px)
    grayValue=(redValue+greenValue+blueValue)/3.0
    myGrayColor=makeColor(grayValue, grayValue, grayValue)
    setColor(px,myGrayColor)
  return newPic
def copy(pic,target,targX,targY):
  targetX = targX
  for x in range(getWidth(pic)):
    targetY = targY
    for y in range(getHeight(pic)):
      pixel = getPixel(pic,x,y)
      tx = getPixel(target,targetX,targetY)
      setColor(tx,getColor(pixel))
      targetY=targetY+1
    targetX = targetX+1
```