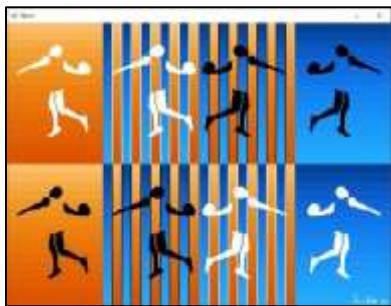# Kai Cheng Yu

Completed

Original


```
#Name: Kai Cheng Yu
#Date: Oct. 21
def collage():
  original=main()
  mirrorHalf=mirror(original)
  negativeHalf=negative(mirrorHalf)
  for x in range (0,500):
    for y in range (368,736):
      mirrorPx=getPixelAt(mirrorHalf,x,y)
      negativePx=getPixelAt(negativeHalf,x,y)
      color=getColor(negativePx)
      setColor(mirrorPx, color)
  for x in range (500,1000):
    for y in range (0,368):
      mirrorPx=getPixelAt(mirrorHalf,x,y)
      negativePx=getPixelAt(negativeHalf,x,y)
      color=getColor(negativePx)
      setColor(mirrorPx, color)
  signPic=makePicture("Signature.jpg")
  x=getWidth(negativeHalf)-getWidth(signPic)
  y=getHeight(negativeHalf)-getHeight(signPic)
  sign=chromakey(signPic,mirrorHalf , x,y)
  show (sign)



def mirror(source):
  newPic=duplicatePicture(source)
  mirrorPoint=getWidth(newPic)/2
  width=getWidth(newPic)
  for x in range(0, mirrorPoint):
    for y in range(0,getHeight(newPic)):
      leftPx=getPixelAt(newPic,x,y)
      rightPx=getPixelAt(newPic,width-x-1,y)
      color=getColor(leftPx)
      setColor(rightPx, color)
  return newPic

def main():
  setMediaPath()
  canvas=makeEmptyPicture(1000, 736, white)
  startX=0 ;startY=0
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```
  #Orange Fade
  background=makeEmptyPicture(250, 368, white)
  org=makeColor(251,190,110)
  colorBlock=makeEmptyPicture(250, 23, org)
  copyInto(colorBlock, background, startX, startY)
  for index in range(1, 16):
    startY=startY+23
    fade=repeat(colorBlock)  #f1
    copyInto(fade, background, startX,startY)
  pic=makePicture("Big_Obj.jpg")
  orgObj=chromakey(pic, background, 0, 0)  #f3
  copyInto(orgObj, canvas, 0, 0)

  #Blue Fade
  blueFade=negative(background)  #f2
  blueObj=chromakey(pic, blueFade, 0, 0)  #f3

  #Crop & Paste Orange
  chopOrg=cropOrg(orgObj,canvas, 25, 275, 0)
  #Crop & Paste Blue
  chopBlue=cropBlue(blueObj,canvas, 1, 250, 0)

  #BottomHalf
  copyInto(blueObj, canvas, 0, 368)
  #Crop & Paste Orange
  chopOrg=cropOrg(orgObj,canvas, 1, 250, 368)
  #Crop & Paste Blue
  chopBlue=cropBlue(blueObj,canvas, 25, 275, 368)

  return canvas


def cropOrg(orgObj,canvas,startX,lengthX,lengthY):
  for index in range(0,5):
    endX=startX+22
    orgCrop=crop(orgObj,startX, endX)
    copyInto(orgCrop, canvas, lengthX, lengthY)
    lengthX=lengthX+50
    startX=endX+22
  return canvas

def cropBlue(blueObj,canvas,startX,lengthX,lengthY):
  for index in range (0, 5):
    endX=startX+22
    blueCrop=crop(blueObj,startX, endX)
    copyInto(blueCrop, canvas, lengthX, lengthY)
    lengthX=lengthX+50
    startX=endX+22
  return canvas

#f4
def crop(source,startX,endX):
  targetPic=makeEmptyPicture(22, 368)
  targetX = 0
  #picture 250x368   (22+3)x10
  for sourceX in range(startX, endX):
    targetY=0
    for sourceY in range(0, 368):
      srcPx=getPixelAt(source,sourceX,sourceY)
```

```python
      srcColor=getColor(srcPx)
      targetPx=getPixelAt(targetPic,targetX,targetY)
      setColor(targetPx, srcColor)
      targetY = targetY + 1
    targetX = targetX + 1
  return targetPic

#f3
def chromakey(pic, canvas, targetX, targetY):
  targetPic=duplicatePicture(canvas)
  for x in range (0, getWidth(pic)):
    for y in range (0, getHeight(pic)):
      px=getPixelAt(pic,x,y)
      color=getColor(px)
      targetPx=getPixelAt(targetPic, x+targetX, y+targetY)
      if distance(white, color)<180:
        new=setColor(targetPx, white)
  return targetPic

#f2
def negative(source):
  newPic=duplicatePicture(source)
  for px in getAllPixels(newPic):
    redValue=getRed(px)
    greenValue=getGreen(px)
    blueValue=getBlue(px)
    negativeRed=255-redValue
    negativeGreen=255-greenValue
    negativeBlue=255-blueValue
    negativeColor=makeColor(negativeRed, negativeGreen, negativeBlue)
    setColor(px, negativeColor)
  return newPic

#f1
def repeat(org):
  for px in getAllPixels(org):
    redV=getRed(px)
    greenV=getGreen(px)
    blueV=getBlue(px)
    c=makeColor(redV*.99, greenV*.947, blueV*.7727)
    setColor(px,c)
  return org
```