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Completed   Original


```
def Collage():
  canvas = makeEmptyPicture(1000,450)
  Normal(canvas)
  Mirror(canvas)
  Grayscale(canvas)
  Cyanotype(canvas)
  Swap(canvas)
  Signature(canvas)
  explore(canvas)


def paint(canvas,picture,Newx,Newy,scale):
  sourceX = 0
  for targetX in range(0,getWidth(picture)/scale):
    sourceY = 0
    for targetY in range(0,getHeight(picture)/scale):
        color = getColor(getPixel(picture,sourceX,sourceY))
        setColor(getPixel(canvas,targetX + Newx,targetY + Newy), color)
        sourceY = sourceY + scale
    sourceX = sourceX + scale


def Normal(canvas):
  picture = makePicture(getMediaPath("Matryoshkadoll.jpg"))
  paint(canvas,picture,0,0,4)




def Mirror(canvas):
  picture = makePicture(getMediaPath("Matryoshkadoll.jpg"))
  width = getWidth(picture)
  for y in range(0, getHeight(picture)):
    for x in range(0, width):
      leftPixel = getPixel(picture, x, y)
      rightPixel = getPixel(picture, width - x - 1, y)
      color = getColor(leftPixel)
      setColor(rightPixel, color)
  paint(canvas,picture,230,70,5)
```

```
def Grayscale(canvas):
  picture = makePicture(getMediaPath("Matryoshkadoll.jpg"))
  for p in getPixels(picture):
    intensity = (getRed(p)+getGreen(p)+getBlue(p))/3
    setColor(p,makeColor(intensity,intensity,intensity))
  paint(canvas,picture,420,120,6)

def Cyanotype(canvas):
  picture = makePicture(getMediaPath("Matryoshkadoll.jpg"))
  for p in getPixels(picture):
    if (getRed(p)+getGreen(p)+getBlue(p) <= 740):
      intensity = (getRed(p)+getGreen(p)+getBlue(p))/3
      setColor(p,makeColor(intensity*.75,intensity*.75,intensity))
  paint(canvas,picture,580,155,7)

def Swap(canvas):
  picture = makePicture(getMediaPath("Matryoshkadoll.jpg"))
  for p in getPixels(picture):
    Red = getBlue(p)
    Green = getRed(p)
    Blue = getGreen(p)
    setColor(p,makeColor(Red,Green,Blue))
  paint(canvas,picture,720,180,8)

def Signature(canvas):
  picture = makePicture(getMediaPath("Signature.png"))
  for p in getPixels(picture):
    if (getRed(p)+getGreen(p)+getBlue(p) >= 620):
      setColor(p,makeColor(255,255,255))
  paint(canvas,picture,720,0,2)
```