Jack Davis

Completed   Original


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def scale(inpic,outpic,varb):
  # Jack Davis 3/5/2024
  sourceX = 0
  for targetX in range(0,getWidth(outpic)):
    sourceY = 0
    for targetY in range(0,getHeight(outpic)):
      color = getColor(getPixel(inpic,int(sourceX),int(sourceY)))
      setColor(getPixel(outpic,targetX,targetY),color)
      sourceY = sourceY + varb
    sourceX = sourceX + varb
  return outpic

def copy(pic,pic2,x,y):

  targetX = x
  for sourceX in range(0,getWidth(pic)):
    targetY = y
    for sourceY in range(0,getHeight(pic)):
      color = getColor(getPixel(pic,int(sourceX),int(sourceY)))
      setColor(getPixel(pic2,targetX,targetY),color)
      targetY = targetY + 1
    targetX = targetX + 1
  return pic2

def crop(pic,startx,starty,endx,endy):

  pic2 = makeEmptyPicture(endx-startx,endy-starty)
  targetX = 0
  for sourceX in range(startx,endx):
    targetY = 0
    for sourceY in range(starty,endy):
      color = getColor(getPixel(pic,int(sourceX),int(sourceY)))
      setColor(getPixel(pic2,targetX,targetY),color)
      targetY = targetY + 1
    targetX = targetX + 1
  return pic2

def merge(picture,newpic,g,w,h):
  for x in range(g, getWidth(picture),2):
    for y in range(g, getHeight(picture),2):
      p =getPixel(picture,x,y)
      color = getColor(p)
      px = getPixel(newpic,x+w,y+h)
      setColor(px,color)

def loar(pic,r,g,b):
  for sourceX in range(0,getWidth(pic)):
    for sourceY in range(0,getHeight(pic)):
      px = getPixel(pic,int(sourceX),int(sourceY))
      setColor(px,makeColor(getRed(px)+r,getGreen(px)+g,getBlue(px)+b))
```

```
def collage():
  varb = 3.5
  file = getMediaPath("turtle proj.jpg")
  pic = makePicture(file)
  outpic = makeEmptyPicture(int(getWidth(pic)/(varb*3)),int(getHeight(pic)/(varb*3)))
  bg = makeEmptyPicture(1000,600,white)
  bg2 = makeEmptyPicture(int(getWidth(pic)/varb),int(getHeight(pic)/varb),white)
  w2 = (getWidth(bg)-getWidth(bg2))/2
  h2 = (getHeight(bg)-getHeight(bg2))/2
  a = crop(pic,12,187,512,487)
  b = crop(pic,560,318,1060,618)
  c = crop(pic,1083,283,1583,583)
  d = crop(pic,1400,360,1900,660)
  loar(a,0,0,50)
  loar(b,50,0,0)
  loar(c,100,64,0)
  loar(d,50,0,50)
  copy(a,bg,0,0)
  copy(b,bg,0,getHeight(bg)/2)
  copy(c,bg,getWidth(bg)/2,0)
  copy(d,bg,getWidth(bg)/2,getHeight(bg)/2)
  scale(pic,bg2,varb)
  merge(bg2,bg,0,w2,h2)
  merge(bg2,bg,1,w2,h2)
  scale(pic,outpic,varb*3)
  copy(outpic,bg,409,0)
  explore(bg)
```