Andrew Hernandez
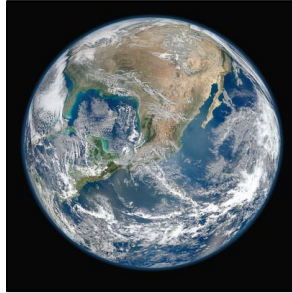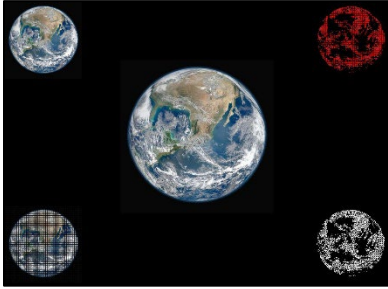
Completed   Original


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# Andrew Hernandez CS120 2022-March-09 Project2

def collage():
  canvas = makeEmptyPicture(1000,736,black)
  source = makePicture(getMediaPath("earth.jpg"))
  pict = makeEmptyPicture(getWidth(source)/2,getHeight(source)/2,black)
  copy(source,canvas,300,150)
  scaleDown(source,pict)
  copy(pict,canvas,0,0)
  copy(waffleWorld(pict),canvas,0,530)
  copy(blackPosterize(pict),canvas,800,0)
  copy(edge(pict),canvas,800,530)
  explore(canvas)

def copy(source,canvas,factor1,factor2):
   targetX = factor1
   for sourceX in range(0,getWidth(source)):
     targetY = factor2
     for sourceY in range(0,getHeight(source)):
       color = getColor(getPixel(source,sourceX,sourceY))
       setColor(getPixel(canvas,targetX,targetY), color)
       targetY = targetY + 1
     targetX = targetX + 1

def scaleDown(source,canvas):
  X = 0
  for x in range(0,getWidth(source)/2):
    Y = 0
    for y in range(0,getHeight(source)/2):
      src = getPixel(source,int(X),int(Y))
      color = getColor(src)
      setColor(getPixel(canvas,x,y),color)
      Y = Y + 2
    X = X + 2

def blackPosterize(source):
 for p in getPixels(source):
   r = getRed(p)
   g = getGreen(p)
   b = getBlue(p)
   luminance = (r+g+b)/3
   if luminance < 150:
     setColor(p,black)
   if luminance >= 150:
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      setColor(p,red)
  return source

def waffleWorld(source):
    for x in range(0,getHeight(source),5):
      for y in range(0,getWidth(source)):
        setColor(getPixel(source,y,x),black)
    for x in range(0,getWidth(source),5):
      for y in range(0,getHeight(source)):
        setColor(getPixel(source,x,y),black)
    return source

def edge(source):
    for px in getPixels(source):
      x = getX(px)
      y = getY(px)
      if y < getHeight(source)-1 and x < getWidth(source)-1:
        sum = getRed(px)+getGreen(px)+getBlue(px)
        botrt = getPixel(source,x+1,y+1)
        sum2 = getRed(botrt)+getGreen(botrt)+getBlue(botrt)
        diff = abs(sum2-sum)
        newcolor = makeColor(diff,diff,diff)
        setColor(px,newcolor)
    return source
```