Extra Practice

Image Processing

- Create a 512x512 image representing sin(hypot(x-256,y-256)/10)/(hypot(x-256,y-256)/30+.001) and save it to a png file.

- Write a program to read all of the JPEG images in the current directory, do something interesting to each (change it's size, filter it, etc.), and write it back to disk in PNG format. Just send me the program, and a description of what it does, not the images.

```python
from PIL import *
from numpy import Image

# Note that we need *32+127 to scale the values to 0-255 range
# but there is still a bit of overflow near the origin
a=fromfunction(lambda x,y:(sin(hypot(x-256,y-256)/10)*32+127)/
(hypot(x-256,y-256)/30+.001),(512,512))
a=a.astype(uint8)
im=Image.fromarray(a)
im.save("x.png")
```

```python
import os
from PIL import Image

files=[fsp for fsp in os.listdir(".") if fsp[-4:].lower()==".jpg"]

for f in files:
    im=Image.open(f)
    im2=im.rotate(90)
    im2.save(f[:-4]+".png")
```