Homework 8

1. Install PIL
2. 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.

Extra Practice 8

1. make a list of all of the files in the current directory with a .jpg (case insensitive) or a .jpeg extension
2. 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.

Practice Solutions 8

1.

```
import os
files=[i for i in os.listdir(".") if i.split(".")[-1].lower() in ("jpeg","jpg")]
```

2.

```
# 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")
```