Handout regarding Project 1

You need the following packages installed before you can start the project:

- numpy
- scipy
- matplotlib: this, in turn requires: numpy, dateutil, pytz, pyparsing and six
- pillow

If you don't have Python on your machine, the first step is to install Python: go to http://www.python.org/download/ and choose a version. (For example, you can choose Python 3.3.)

You can install all these packages from the web site: http://www.lfd.uci.edu/~gohlke/pythonlibs/ Just choose the right package to download, and run the executable and follow the direction. To determine the right package, make sure it is for the version of Python you have installed and matches your hardware (32-bit or 64-bit processor).

After you have installed all the packages, you can test if things are working correctly by simply typing the first few lines from the project handout. (Before you type line # 5, make sure that you have downloaded crab1Frames.rar and uncompressed it and saved it in C.

```
import numpy as np
from scipy import ndimage, misc
from copy import copy
import matplotlib.pyplot as plt
first = misc.imread('C:crab1Frames/crab1001.jpg') #read the image
firstGray = copy(first[:,:,1]) #project the image
firstBlackWhite = firstGray.copy()
firstBlackWhite = firstBlackWhite<=80 #threshold the image
#save the images.
misc.imsave('C:crab1Frames/first.png',first)
misc.imsave('C:crab1Frames/firstGray.png',firstGray)
misc.imsave('C:crab1Frames/firstBlackWhite.png',firstBlackWhite)
```

When you have all the steps, inspect the file `firstBlackWhite.png` in the directory crab1Frames and make sure that it looks as expected, namely Figure 1C.