1 Administrative Topics

- Return graded quizzes
- Bruce has office hours 1-3 today. Stephanie has them 3:30-5 (she hopes). Zach the evening TA is sick and we are looking for a sub, but haven’t found one yet. So, you may have to wait for Bruce to get there.

A few coding issues to address:

- a slice of a list is a list
  This means that the following code:
  
  ```python
  list = ['a', 'b', 'c']
  print list[0:2]
  ```

  results in the output ['a', 'b']. Notice this includes the list delimiters (the brackets).

- Don’t put copies of the same function in multiple files.

- You can slice like this: [1:].
  This is some neat notation:
  
  - `list[i:]` is equivalent to `list[i:len(list)]`
  - `list[:j]` is equivalent to `list[0:j]`
2 Proj 5

2.1 Hierarchical Design

The design of this project is top-down, or hierarchical. We break each task into smaller tasks. Because this is aPixmap-manipulation project, we organize our break-down around Pixmaps.

Let’s use as our example tricollage.py – the program that organizes three images into a triangular collage:

1. Build the collage list
   (a) Build the initial list (i.e. use 0’s for the offsets and None’s for the images)
   (b) Read in the images
   (c) Adjust the offsets to put the images into a triangle

2. Build the collage Pixmap
   (a) Determine how large the collage must be
   (b) Create an empty Pixmap to contain the collage
   (c) For each image in the collage list:
      i. Apply the appropriate effect
      ii. Copy the image into the collage

3. Save or display the collage

Many of these tasks are accomplished by functions. Others are short enough that they don’t warrant a separate function.

2.2 Building Collages

Let’s go over the design of buildCollage.
1. It assumes that the input will be formatted in a certain way. This is just the way we do things in Python. It is a good idea to write a comment at the top of the function indicating the expected format and meaning of the input. That way, when you return to your code after a few days, you will have a nice reminder about how to use the function. Also, when I am grading it, I will know what the function is intended to do.

2. It determines how large the background needs to be, and makes a blank background of that size.

3. It takes in a list of lists, loops through them, and uses the information to place each image in the right place with the right effect.

4. It returns the new collage. Why is it important to return the collage?

We wrote the code together in class, but I am not posting it because it is part of your project.