MTH208a: Worksheet 5

Images in R...

Recall worksheet 4 and our discussions there. We will continue working with images in R today.

1. Write an `R` function that takes an `imager` image as input and outputs the `imager` image rotated by 180 degrees.

2. Write an `R` function that takes an `imager` image as input and outputs the `imager` image rotated clockwise by 90 degrees.

3. Write an `R` function that takes an `imager` image as input and outputs the `imager` image rotated anti-clockwise by 90 degrees.

4. Crop the image of the dog to a 600×600 pixel file. Write an algorithm to convert the image to a 300×300 pixel `imager` image. The reduced image should still have the complete dog. Save the `imager` image in a `jpeg` file using command `save.image()`. What is the size of this new file?

5. Repeat the above for making a 60×60 `imager` image of the dog.

6. The above is an example of a simple image compression. Can you think of other ways of compressing the image, using tools from linear algebra?