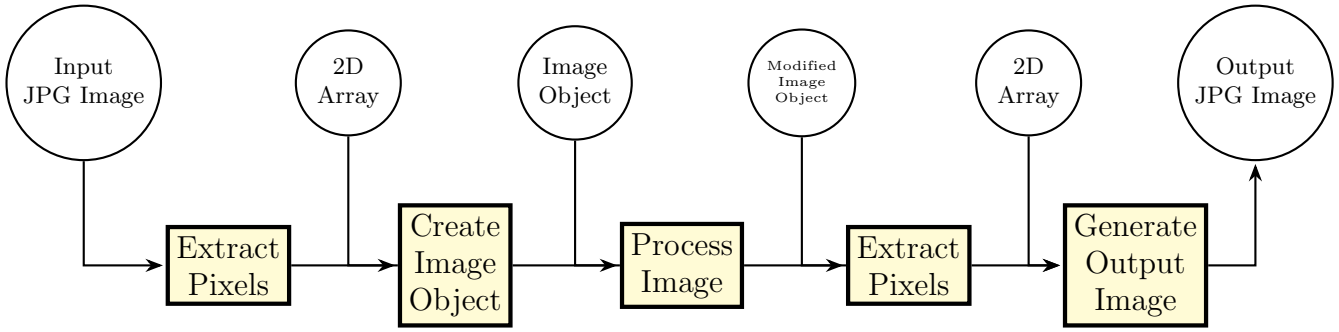
Image Processing Flow Chart

In this programming assignment, you will write a program that takes an image (in the format of JPG or PNG) and generates a modified or processed image. You are required to use two classes, Pixel and Image for this assignment. The image processing methods, such as invert, blur, etc., need to be implemented as member methods of the Image class. The Pixel class will serve as the data type of the member variable called pixels. Below is a flow chart that illustrates the process.



Extract Pixel Values

Each pixel for color images, has three color components, red, green, and blue (RGB). The Java library APIs use a 32-bit integer to store the three color components plus an additional field called opacity α. A mask x0FF is used to take each component out of the 32-bit integer by performing a bit-wise & (AND) operation. After manipulation of the pixels of an image, a bit-wise | (OR) operation is performed to pack the four components back in a 32-bit integer. The Java APIs take the 32-bit integers as pixel values and generate an output image.

opacity	red	green	blue
8 bits	8 bits	8 bits	8 bits