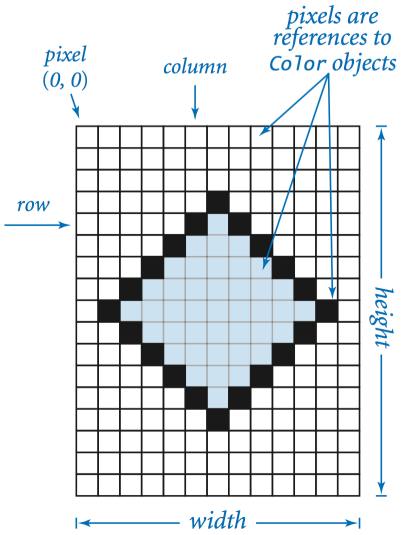
Image processing

In this project, you will implement code to process digital images. A *digital image* is a rectangular grid of *pixels* (picture elements), where the color of each pixel is individually defined. In this project, we work with the types of images are referred to as *vector* images.



We provided a data type called Picture. The Picture data type allows you to manipulate digital images. You can load an image file using

Picture pic = new Picture(fileName);

Once loaded, you can manuplate the image using. For example: set the value of a pixel to a given color, and extract the color of a given pixel. The following API summarizes the available operations:

public class Picture	
Picture(String filename)	*create a picture from a file*
Picture(int w, int h)	*create a blank w-by-h picture*
int width()	*return the width of the picture*
int height()	*return the height of the picture*
Color get(int col, int row)	*return the color of pixel (col, row)*
void set(int col, int row, Color color)	*set the color of pixel (col, row) to color*
void show()	*display the picture in a window*
void save(String filename)	*save the picture to a file*

Most image-processing programs are filters that scan through all of the pixels in a source image and then perform some computation to determine the color of each pixel in a target image. In this project, you will implement code to flip (mirror) an image. For example:

Original Image:

Mirror image: