Assignment-14

1. What does RGBA stand for?

Ans. RGBA stands for Red, Green, Blue, Alpha. The first three components represent the color channels, and the Alpha channel represents transparency (0 is fully transparent, and 255 is fully opaque).

2. From the Pillow module, how do you get the RGBA value of any images?

Ans. You can use the `getpixel()` method to get the RGBA value of a pixel:

    from PIL import Image

    img = Image.open('image.png')

    rgba_value = img.getpixel((x, y))

3. What is a box tuple, and how does it work?

Ans. A box tuple is a tuple of four integers that defines a rectangular area in an image. The tuple is in the format `(left, top, right, bottom)`, where:

- `left`: X-coordinate of the left edge.

- `top`: Y-coordinate of the top edge.

- `right`: X-coordinate of the right edge.

- `bottom`: Y-coordinate of the bottom edge.

4. How can you find out the width and height of an `Image` object?

Ans. You can use the `size` attribute to get the width and height of an image:

    width, height = img.size

5. What method would you call to get an `Image` object for a 100×100 image, excluding the lower-left quarter of it?

Ans. You can use the `crop()` method along with a box tuple. Assuming a 100×100 image, the lower-left quarter is excluded by cropping the image:

    cropped_img = img.crop((50, 0, 100, 50))

6. After making changes to an `Image` object, how could you save it as an image file?

Ans. You can use the `save()` method to save the modified image:

    img.save('new_image.png')

7. What module contains Pillow's shape-drawing code?

Ans. The `ImageDraw` module contains Pillow's shape-drawing code.

8. Image objects do not have drawing methods. What kind of object does? How do you get this kind of object?

Ans. The `ImageDraw` object has drawing methods. You can get an `ImageDraw` object by importing `ImageDraw` and passing the `Image` object to it:

    from PIL import ImageDraw

    draw = ImageDraw.Draw(img)