1. What does RGBA stand for?

Answer: Red Green Blue Alpha

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

Answer: In Pillow, RGBA values are represented by a tuple of four integer values. The color red is represented by (255, 0, 0, 255). This is maximum amount of red, no green or blue, and the maximum alpha value, meaning it is fully opaque. Green is represented by (0, 255, 0, 255), and blue is (0, 0, 255, 255). White, the combination of all colors, is (255, 255, 255, 255), while black, which has no color at all, is (0, 0, 0, 255).

imgobj.getdata() → This will return the entire tuple of RGBA values of the image

imgobj.getpixels((x_coordinate,y_coordinate)) → THis will return the RGBA value of a particular x, y coordinate of the image.

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

Answer: Many of Pillow's functions and methods take a box tuple argument, which is a tuple of four integer coordinates that represents a rectangular region in an image.

4. Use your image and load in notebook then, How can you find out the width and height of an Image object?

Answer: Using imgobj.size function which returns a tuple containing the width and height of an image

width, height = imgobj.size('filaneme.jpg')

print(width, height)

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

Answer: We can open the image using Image.open() and convert the image to an RGB using convert('RGB') method.

Then we have to convert the image to a pixel array using array(imgobj) method. This will store all pixel data in an array.

Then we can fill the bottom left rows and columns with black color using (0,0,0) as below. This will display the image excluding the bottom left.

```
from PIL import Image
import numpy as np
img = Image.open('photo.JPG').convert('RGB')
img_array = np.array(img)

#Making the lower bottom left rows and column of the image as black
img_array[700:1090,1:550]=(0,0,0)

img1=Image.fromarray(img_array)
img1.show()
```

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

Answer: We can save an image using imgobj.save('Filename.jpg') method, you can specify any valid extension such as png, jpg and jpeg, etc.

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

Answer: PIL ImageDraw module contains shape drawing code. More specifically ImageDraw.Draw() class has shape-drawing code.

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

Answer: Image.Draw object has drawing methods. To create this object, we have to import ImageDraw from PIL and then pass the image to the ImageDraw.Draw() object which returns an ImageDraw object, now we can draw on the image.

```
from PIL import Image, ImageDraw
img = Image.open(filepath)
draw = ImageDraw.Draw(img)
```