1. **What does RGBA stand for?**

RGBA tuples are 4-tuples where the respective tuple components represent red, green, blue, and alpha (opacity) values for a color. Each value is a floating point number between 0.0 and 1.0. For example, the tuple (1, 0, 0, 1) represents an opaque red, while (0, 1, 0, 0.5) represents a half transparent green.

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

To read an image with Python Pillow library, follow these steps.

1. Import Image from PIL library.
2. Use Image.open() method and pass the path to image file as argument. Image.open() returns an Image object. You can store this image object and apply image operations on it.
3. **What is a box tuple, and how does it work?**

The box.tuple submodule provides read-only access for the tuple userdata type. It allows, for a single [tuple](https://www.tarantool.io/en/doc/latest/concepts/data_model/value_store/#index-box-tuple): selective retrieval of the field contents, retrieval of information about size, iteration over all the fields, and conversion to a [Lua table](https://www.lua.org/pil/2.5.html)

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

Pill.image.open() is used to open the image and then. Width and,height property of image are used to get the height and width of the image the same results can be obtained by using sizwe property.

To use pillow library run the following command:

1. Pip install pillow

import required module

from PIL import Image

# get image

filepath = "geeksforgeeks.png"

img = Image.open(filepath)

# get width and height

width = img.width

height = img.height

# display width and height

print("The height of the image is: ", height)

print("The width of the image is: ", width)pip install pillow

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

Removing part of an image refers to the process of destroying image data in certain regions of an image. Where the removal can be either dynamic or hard-coded. In most removal processes the dimensions of the image stay the same in the resultant image. Literally removing sections from an image would change the dimensions in unaccountable ways. In this article, we will take a look at ways of removing a region of an image, and would learn about different ways of doing .

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

* PIL is the Python Imaging Library which provides the python interpreter with image editing capabilities. The Image module provides a class with the same name which is used to represent a PIL image. The module also provides a number of factory functions, including functions to load images from files, and to create new images.
* **Image.save()** Saves this image under the given filename. If no format is specified, the format to use is determined from the filename extension, if possible.
* Keyword options can be used to provide additional instructions to the writer. If a writer doesn’t recognise an option, it is silently ignored. The available options are described in the image format documentation for each writer.

1. **What module contains Pillow’s shape-drawing code?**

The **‘ImageDraw’** module provides simple 2D graphics support for Image Object. Generally, we use this module to create new images, annotate or retouch existing images and to generate graphics on the fly for web use.

The graphics commands support the drawing of shapes and annotation of text.

* An image can be well-thought-out to be a two-dimensional array of pixels (picture elements). A pixel is the smallest dot of color being supported.
* The origin of the two-dimensional co-ordinate system used by ImageDraw, is in the **upper left corner** of the image.
* The pillow color schemes we use is RGB. The color RGB representation and support is provided by the module **ImageColor**.
* bitmap, OpenType or TrueType are the acceptable fonts for text annotations.
* Most of the drawing commands may require a bounding box parameter that specifies the area on the image to which the command is to be applied.
* A sequence of co-ordinates can be represented as [ (x0, y0), (x1, y1),…(xn, yn)].
* For some drawing commands, we require angle values.

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

A [Drawing](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.drawing) object describes visible content, such as a shape, bitmap, video, or a line of text. Different types of drawings describe different types of content. The following is a list of the different types of drawing objects.

* [GeometryDrawing](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.geometrydrawing) – Draws a shape.
* [ImageDrawing](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.imagedrawing) – Draws an image.
* [GlyphRunDrawing](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.glyphrundrawing) – Draws text.
* [VideoDrawing](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.videodrawing) – Plays an audio or video file.
* [DrawingGroup](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.drawinggroup) – Draws other drawings. Use a drawing group to combine other drawings into a single composite drawing.

[Drawing](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.drawing) objects are versatile; there are many ways you can use a [Drawing](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.drawing) object.

* You can display it as an image by using a [DrawingImage](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.drawingimage) and an [Image](https://learn.microsoft.com/en-us/dotnet/api/system.windows.controls.image) control.
* You can use it with a [DrawingBrush](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.drawingbrush) to paint an object, such as the [Background](https://learn.microsoft.com/en-us/dotnet/api/system.windows.controls.page.background) of a [Page](https://learn.microsoft.com/en-us/dotnet/api/system.windows.controls.page).
* You can use it to describe the appearance of a [DrawingVisual](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.drawingvisual).
* You can use it to enumerate the contents of a [Visual](https://learn.microsoft.com/en-us/dotnet/api/system.windows.media.visual).