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| Question 1: |
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Define a class with a generator which can iterate the numbers, which are divisible by 7, between a given range 0 and n.

Question 2:

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| Write a program to compute the frequency of the words from the input. The output should output after sorting the key alphanumerically. |
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| Suppose the following input is supplied to the program: |
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| New to Python or choosing between Python 2 and Python 3? Read Python 2 or Python 3. |
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| Then, the output should be: |
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| 2:2 |
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| --- |
| 3.:1 |
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| --- |
| 3?:1 |
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|  |
| --- |
| New:1 |
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| --- |
| Python:5 |
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| --- |
| Read:1 |
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| --- |
| and:1 |
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| --- |
| between:1 |
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| --- |
| choosing:1 |
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| --- |
| or:2 |
|  |

to:1

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| --- |
| Question 3: |
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Define a class Person and its two child classes: Male and Female. All classes have a method "getGender" which can print "Male" for Male class and "Female" for Female class.

Question 4:

Please write a program to generate all sentences where subject is in ["I", "You"] and verb is in ["Play", "Love"] and the object is in ["Hockey","Football"].

Question 5:

Please write a program to compress and decompress the string "hello world!hello world!hello world!hello world!".

Question 6:

Please write a binary search function which searches an item in a sorted list. The function should return the index of element to be searched in the list.

Solutions :

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

**Ans:** **RGBA** is a four-channel format containing data for Red, Green, Blue, and an Alpha value. Where Alpha Represents the Opacity

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

**Ans:** **ImageColor.getcolor()** gives rgba value of any image

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

**Ans:** A box tuple is a tuple value of four integers: the left-edge x-coordinate, the top-edge y-coordinate,the width, and the height, respectively.

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

In [4]:

*#Example Program*

**from** PIL **import** Image

pic **=** Image**.**open('Pic.jpg')

print(f'Width, Height -> {pic**.**size}') *# Approach 1*

print(f'Width, Height -> {pic**.**width},{pic**.**height}') *# Approach 2*

width,height **=** pic**.**size

print(f'Width, Height -> {width},{height}') *# Approach 3*

Width, Height -> (287, 70)

Width, Height -> 287,70

Width, Height -> 287,70

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

In [8]:

**from** PIL **import** Image

img **=** Image**.**open('Pic.jpg')

new\_img **=** img**.**crop((0,50,50,50))

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

In [13]:

*#Example Program*

**from** PIL **import** Image

pic **=** Image**.**open('pic.jpg')

pic**.**save('pic2.jpg')

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

**Ans:** Pillows **ImageDraw** module contains Shape drawing methods

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

**Ans:** ImageDraw objects have shape-drawing methods such as point(), line(), or rectangle().They are returned by passing the Image object to the ImageDraw.Draw() function.