

QUESTION 1

Add 2 images

```
import matplotlib.pyplot as plt
import cv2
import numpy as np

img1 = cv2.imread('./img1.jpg')
img2 = cv2.imread('./img2.jpg')

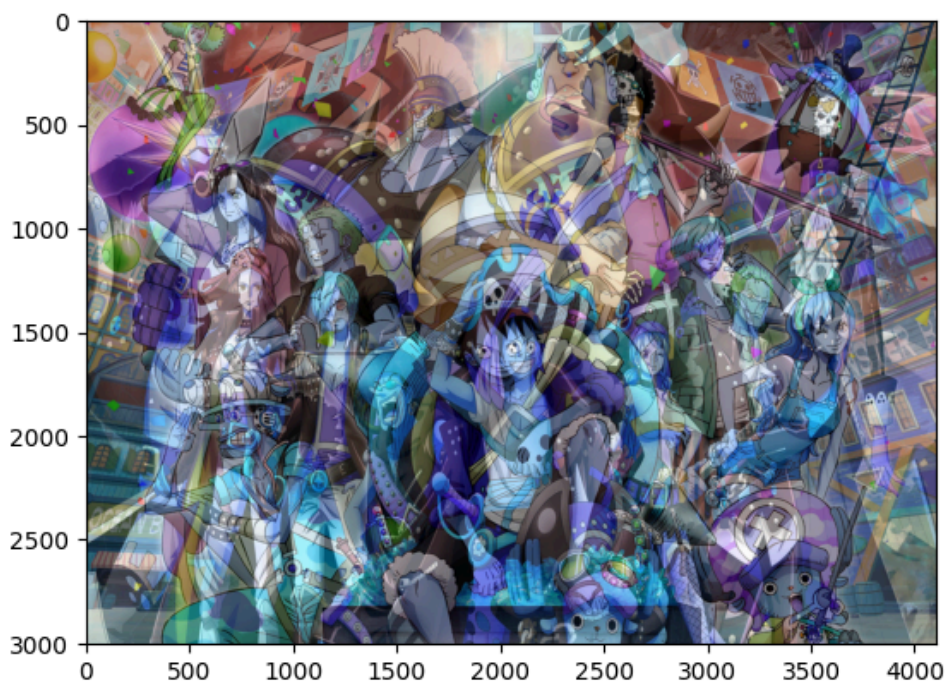
img2 = cv2.resize(img2, (img1.shape[1], img1.shape[0]))

alpha = 0.5
beta = 1 - alpha
img = cv2.addWeighted(img1, alpha, img2, beta, 0)

cv2.imwrite('blended_image.jpg', img)
# cv2.imshow('Blended Image', img)
plt.imshow(img)
```

OUTPUT

<matplotlib.image.AxesImage at 0x7f934b62e7d0><Figure size 640x480 with 1 Axes>



QUESTION 2

Subtract 2 images

```
import matplotlib.pyplot as plt
import cv2
import numpy as np

img1 = cv2.imread('./img1.jpg')
```

```
img2 = cv2.imread('./img2.jpg')

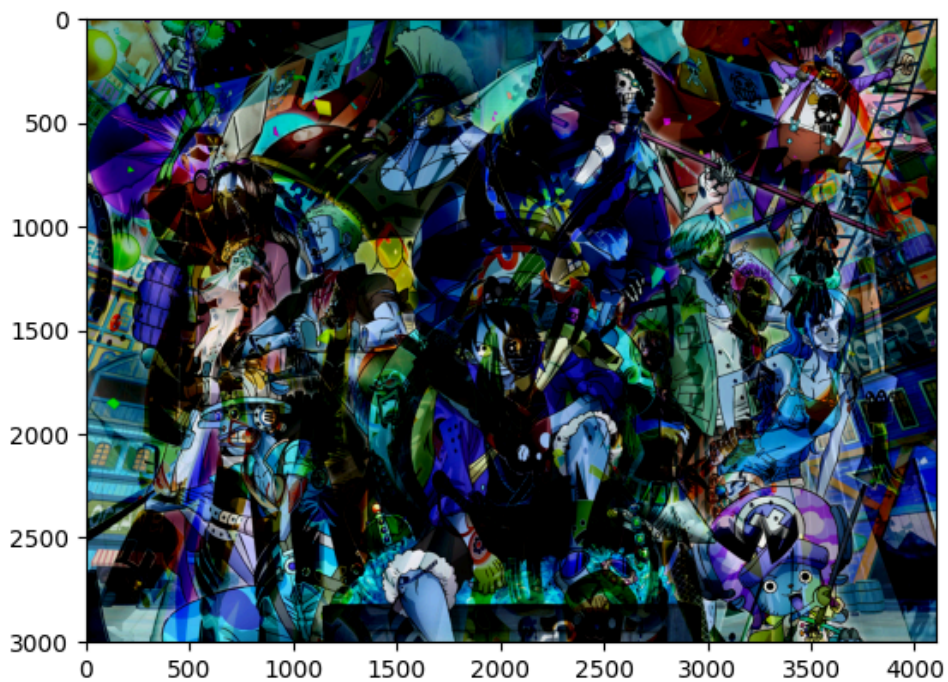
img2 = cv2.resize(img2, (img1.shape[1], img1.shape[0]))

img = cv2.subtract(img1, img2)

cv2.imwrite('blended_image.jpg', img)
# cv2.imshow('Blended Image', img)
plt.imshow(img)
```

OUTPUT

<matplotlib.image.AxesImage at 0x7f934b5558d0><Figure size 640x480 with 1 Axes>



QUESTION 3

Multiply 2 images

```
import matplotlib.pyplot as plt
import cv2
import numpy as np

img1 = cv2.imread('./img1.jpg')
img2 = cv2.imread('./img2.jpg')

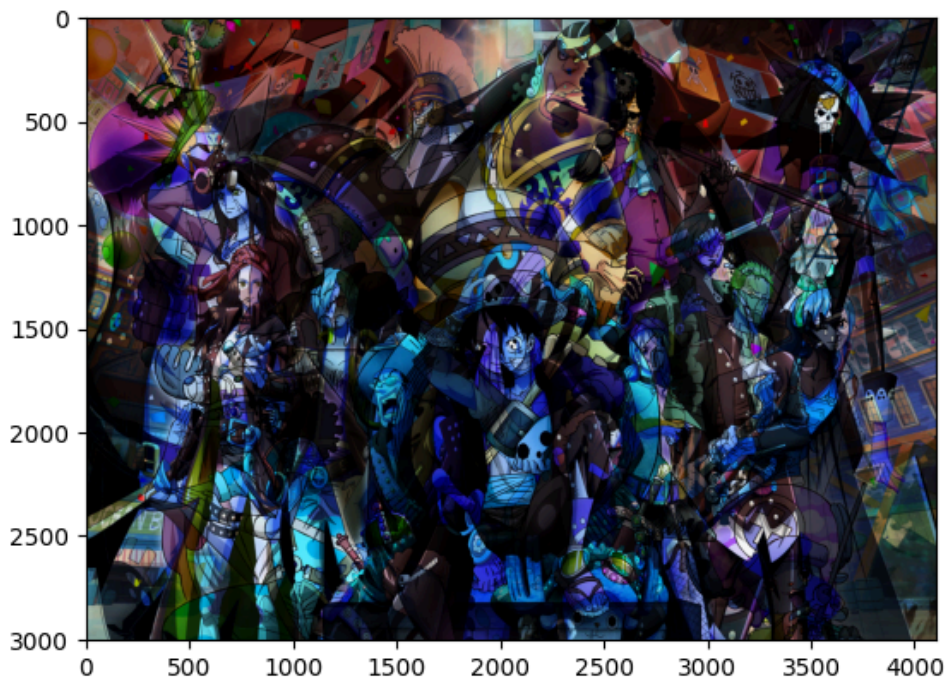
img2 = cv2.resize(img2, (img1.shape[1], img1.shape[0]))

img = cv2.multiply(img1, img2, scale=1.0/255.0)

cv2.imwrite('blended_image.jpg', img)
# cv2.imshow('Blended Image', img)
plt.imshow(img)
```

OUTPUT

<matplotlib.image.AxesImage at 0x7f934aec7dd0><Figure size 640x480 with 1 Axes>



QUESTION 4

Divide 2 images

```
import matplotlib.pyplot as plt
import cv2
import numpy as np

img1 = cv2.imread('./img1.jpg')
img2 = cv2.imread('./img2.jpg')

img2 = cv2.resize(img2, (img1.shape[1], img1.shape[0]))

img = np.array(img1, dtype=np.float32)/np.array(img2, dtype=np.float32)

cv2.imwrite('blended_image.jpg', img)
# cv2.imshow('Blended Image', img)
plt.imshow(img)
```

OUTPUT

/tmp/ipykernel_3113/2660822262.py:10: RuntimeWarning: divide by zero encountered in divide

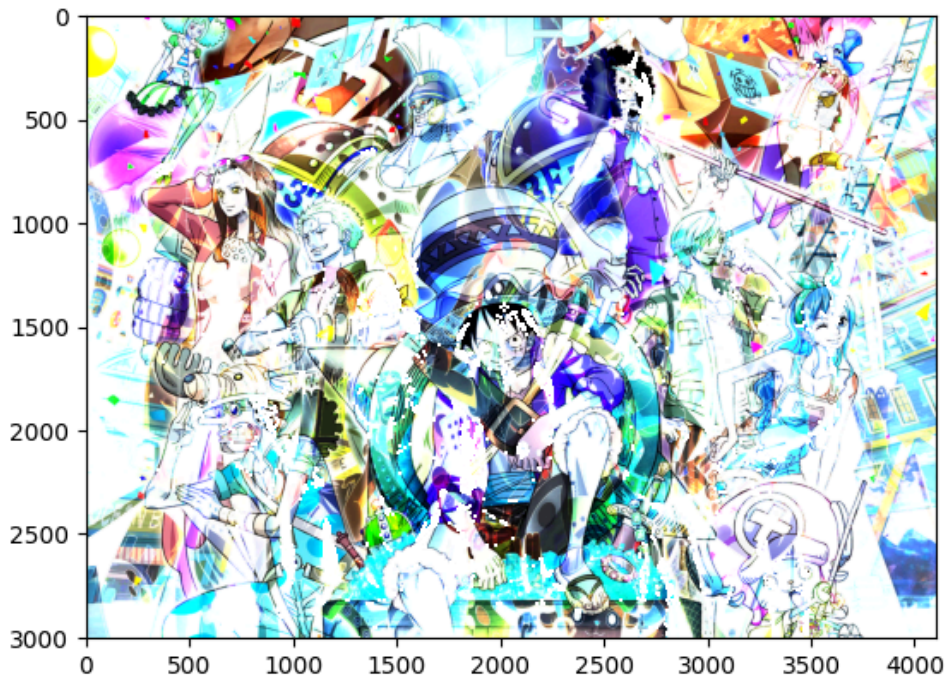
```
img = np.array(img1, dtype=np.float32)/np.array(img2, dtype=np.float32)
```

/tmp/ipykernel_3113/2660822262.py:10: RuntimeWarning: invalid value encountered in divide

```
img = np.array(img1, dtype=np.float32)/np.array(img2, dtype=np.float32)
```

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers). Got range [0.0..255.0].

<matplotlib.image.AxesImage at 0x7f934b486890><Figure size 640x480 with 1 Axes>



QUESTION 5

AND 2 images

```
import matplotlib.pyplot as plt
import cv2
import numpy as np

img1 = cv2.imread('./img1.jpg')
img2 = cv2.imread('./img2.jpg')

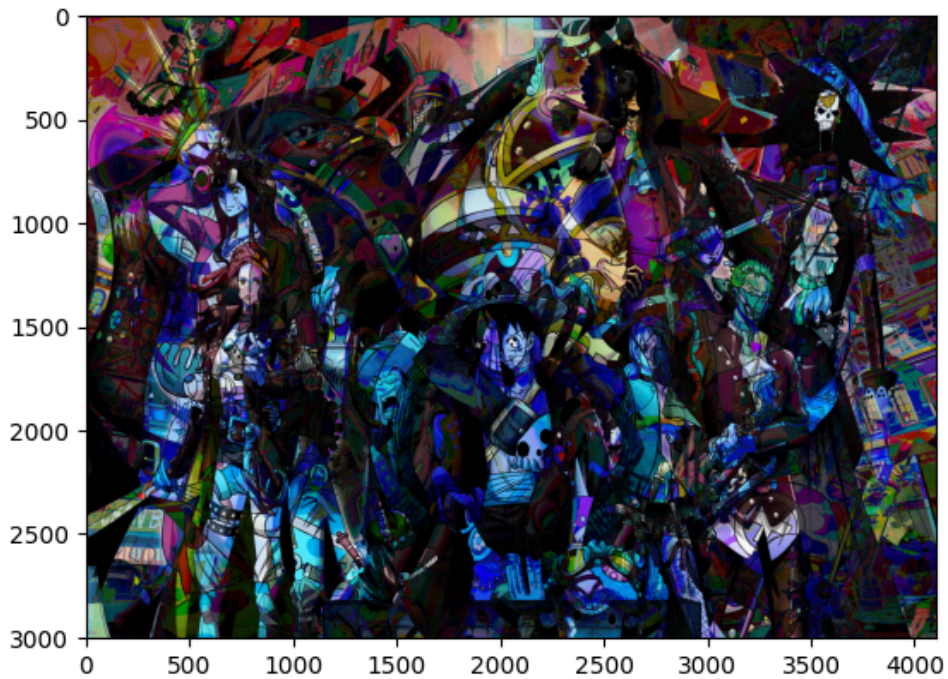
img2 = cv2.resize(img2, (img1.shape[1], img1.shape[0]))

img = np.bitwise_and(np.array(img1, dtype=np.uint8), np.array(img2, dtype=np.uint8))

cv2.imwrite('blended_image.jpg', img)
# cv2.imshow('Blended Image', img)
plt.imshow(img)
```

OUTPUT

<matplotlib.image.AxesImage at 0x7f934b305250><Figure size 640x480 with 1 Axes>



QUESTION 6

NOT 2 images

```
import matplotlib.pyplot as plt
import cv2
import numpy as np

img1 = cv2.imread('./img1.jpg')
img2 = cv2.imread('./img2.jpg')

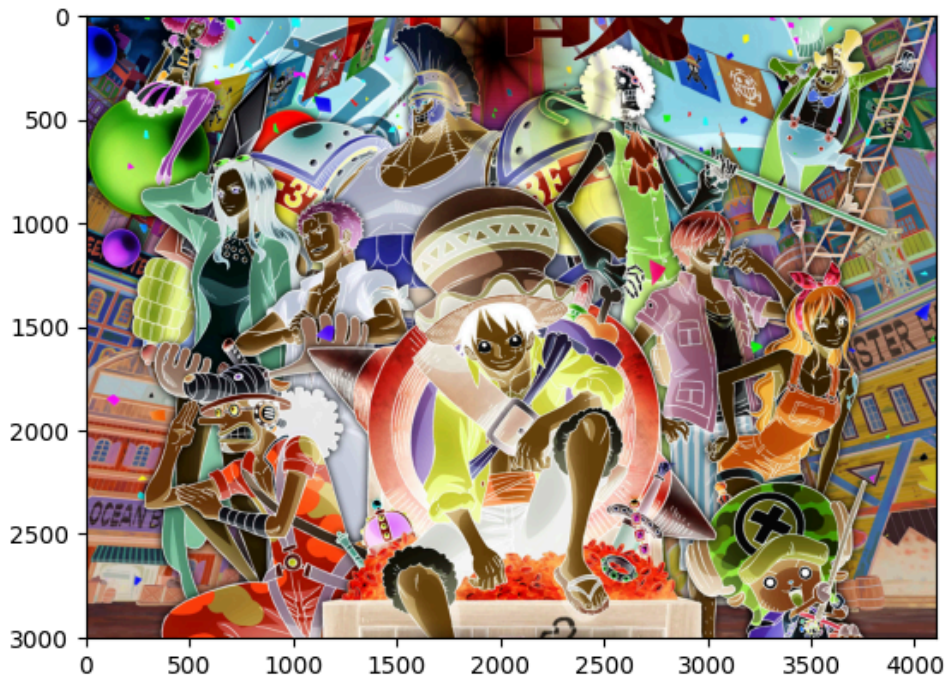
img2 = cv2.resize(img2, (img1.shape[1], img1.shape[0]))

img = np.bitwise_not(np.array(img1, dtype=np.uint8), np.array(img2, dtype=np.uint8))

cv2.imwrite('blended_image.jpg', img)
# cv2.imshow('Blended Image', img)
plt.imshow(img)
```

OUTPUT

<matplotlib.image.AxesImage at 0x7f934b3857d0><Figure size 640x480 with 1 Axes>



Question &: OR 2 images

```
import matplotlib.pyplot as plt
import cv2
import numpy as np

img1 = cv2.imread('./img1.jpg')
img2 = cv2.imread('./img2.jpg')

img2 = cv2.resize(img2, (img1.shape[1], img1.shape[0]))

img = np.bitwise_or(np.array(img1, dtype=np.uint8), np.array(img2, dtype=np.uint8))

cv2.imwrite('blended_image.jpg', img)
# cv2.imshow('Blended Image', img)
plt.imshow(img)
```

OUTPUT

<matplotlib.image.AxesImage at 0x7f934b1f7ad0><Figure size 640x480 with 1 Axes>

