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Batch: D

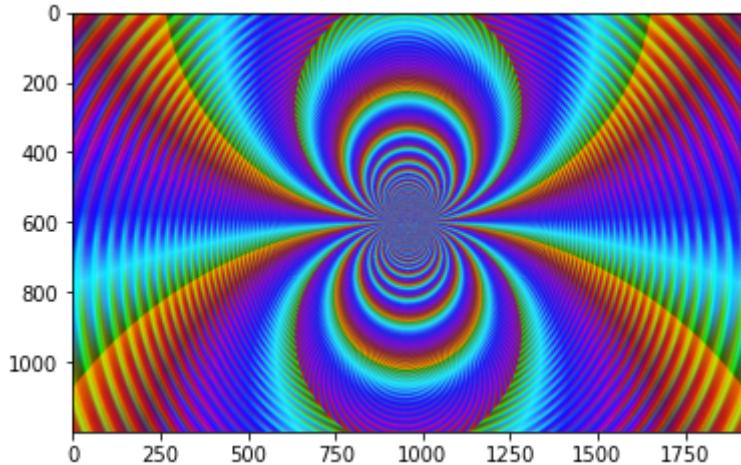
```
from google.colab import files  
uploaded = files.upload()
```

Choose Files DIPLab_img.jpeg
• **DIPLab_img.jpeg**(image/jpeg) - 918802 bytes, last modified: 8/27/2021 - 100% done
Saving DIPLab_img.jpeg to DIPLab_img.jpeg

```
import cv2  
from matplotlib import pyplot as plt  
img = cv2.imread('/content/DIPLab_img.jpeg')
```

```
plt.imshow(img)
```

<matplotlib.image.AxesImage at 0x7feb127956d0>



```
print(img)
```

```
[[[ 79  41 113]  
 [ 79  43 113]  
 [ 79  46 113]  
 ...  
 [198  41   2]  
 [206  43   10]  
 [253 255 252]]
```

```
[[ 79  42 114]  
 [ 81  45 115]  
 [ 80  48 113]  
 ...
```

```
[198  40   4]
[206  43  11]
[253 255 252]]
```



```
[[ 79  45 115]
 [ 78  47 114]
 [ 78  51 114]
 ...
 [195  39   4]
 [203  41  12]
 [251 255 254]]
```



```
...
[[210  56  13]
 [211  55  12]
 [211  53  13]
 ...
 [222  55  12]
 [219  58   6]
 [248 255 255]]
```



```
[[210  56  13]
 [209  55  12]
 [211  53  13]
 ...
 [222  55  12]
 [219  58   6]
 [248 255 255]]
```



```
[[208  57  13]
 [210  56  13]
 [210  53  13]
 ...
 [222  55  12]
 [219  59   5]
 [248 255 255]]]
```

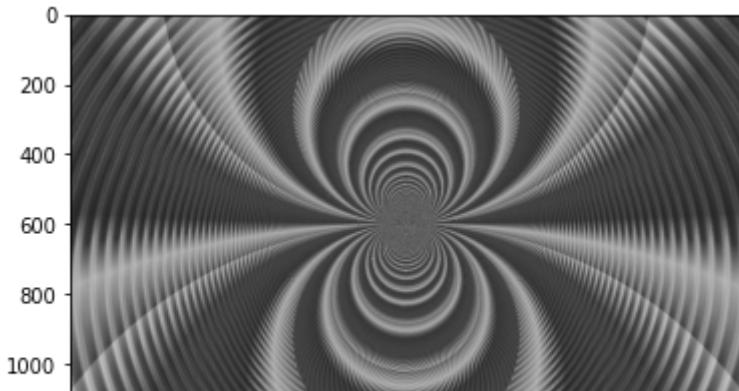
```
img.shape
```

```
(1200, 1920, 3)
```

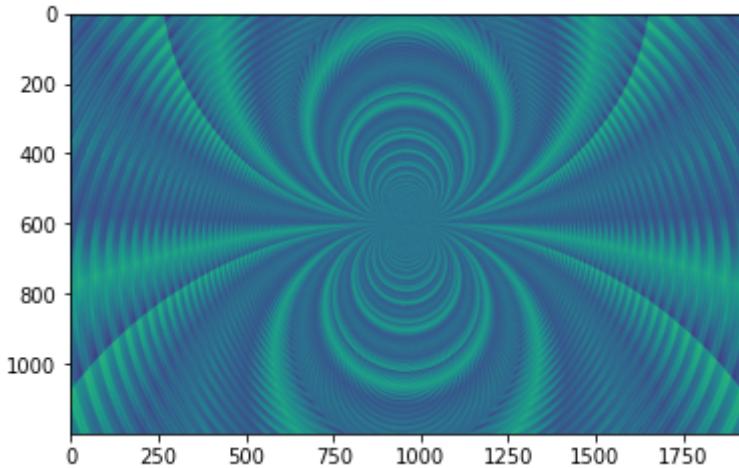
```
from PIL import Image
```

```
im1 = Image.open('/content/DIPLab_img.jpeg')
im1.save('/content/DIPLab_img.jpg')
```

```
import matplotlib.image as mpimg
img = cv2.imread('/content/DIPLab_img.jpg')
R, G, B = img[:, :, 0], img[:, :, 1], img[:, :, 2]
imgGray = 0.298 * R + 0.587 * G + 0.114 * B
plt.imshow(imgGray, cmap='gray')
plt.show()
```



```
import matplotlib.image as mpimg
img = cv2.imread('/content/DIPLab_img.jpg')
R, G, B = img[:, :, 0], img[:, :, 1], img[:, :, 2]
imgGray = 0.8589 * R + 0.6870 * G + 0.4140 * B
plt.imshow(imgGray)
plt.show()
```



```
from PIL import Image
pixel_map = im1.load()
width, height = im1.size
z = 500
for i in range(width):
    for j in range(height):

        # the following if part will create
        # a square with color orange
        if((i >= z and i <= width-z) and (j >= z and j <= height-z)):
            # RGB value of orange.
            pixel_map[i, j] = (0, 0, 255)

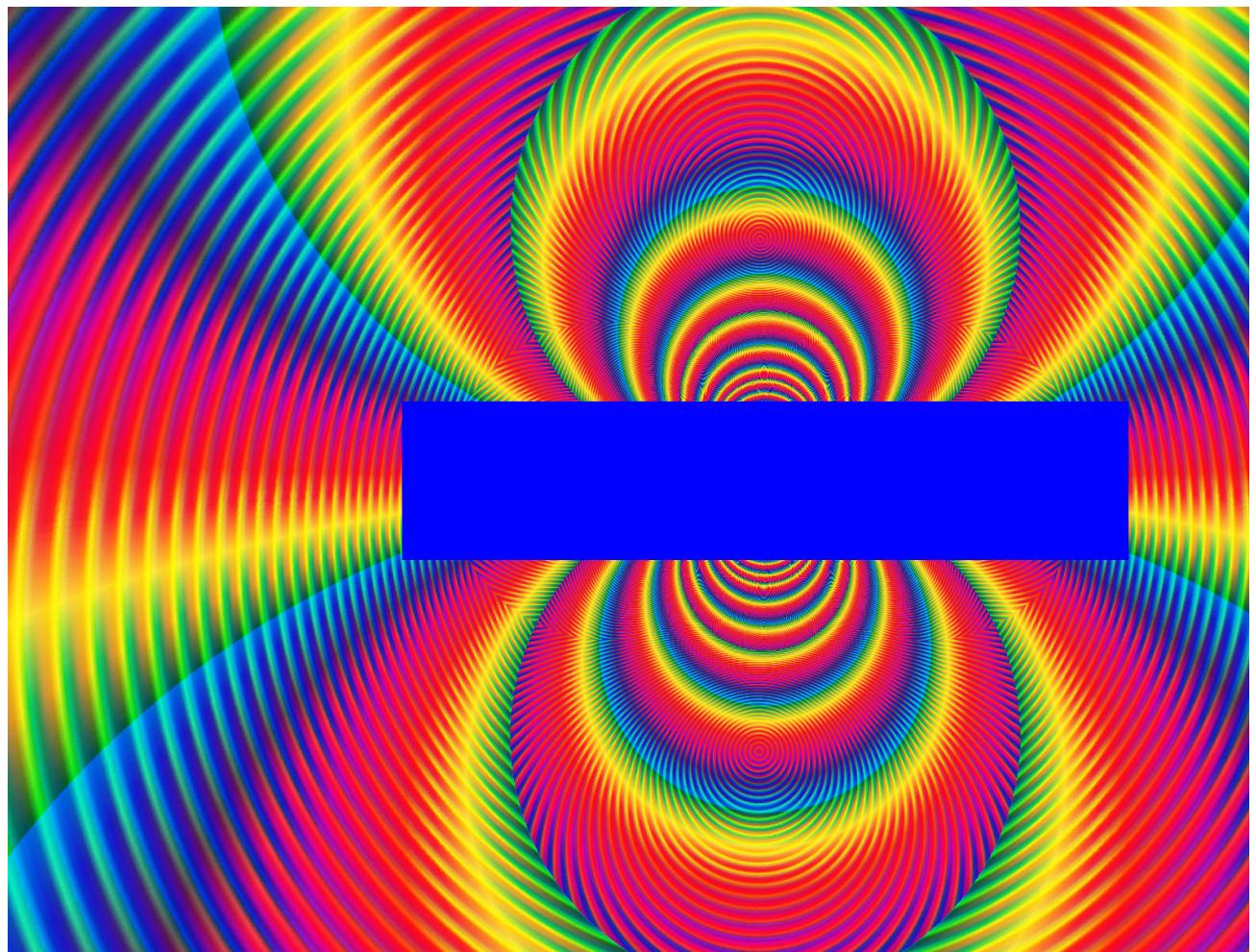
im1.save("output", format="png")

# use img.show() to see the image on the
# output screen.

im1.show()
```

im1

<https://colab.research.google.com/drive/1c-DKH6Fzt3rfa2oQbmX8rP1c0lISqduo#scrollTo=rayGIJZzBOqU&printMode=true>



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