B1202079_20231121_HW9.ipynb ☆

檔案 編輯 檢視畫面 插入 執行階段 工具 說明 儲存中...

+ 程式碼 + 文字

```python
import cv2
import numpy as np
from urllib.request import urlopen
from matplotlib import pyplot as plt

def read_image_from_url(url):
        """Reads an image from a URL and returns it as a BGR numpy array."""
        response = urlopen(url)
        image = np.asarray(bytearray(response.read()), dtype="uint8")
        image = cv2.imdecode(image, cv2.IMREAD_COLOR)
        return image

# Example image URL
url = 'https://cdn.bella.tv/files/798999749_m.jpg'    # 替換為你想要的圖片URL

# Read the image from the URL
img_Ponyo_bgr = read_image_from_url(url)

# Height, Width, and Three Channels
print('Image Size',img_Ponyo_bgr.shape)

# Splitting the BGR image into its components
b, g, r = cv2.split(img_Ponyo_bgr)

# Merging the components into an RGB image
img_Ponyo_rgb = cv2.merge([r, g, b])

# Setting up the matplotlib plot
fig, axs = plt.subplots(nrows=1, ncols=5, figsize=(12, 4))

def f_imshow(ax, mat, title):
        ax.imshow(mat, cmap='pink')
        ax.set_title(title)
        ax.axis('off')

# Display each channel and the combined image
f_imshow(axs[0], img_Ponyo_rgb, 'All Channels(RGB)')
f_imshow(axs[4], img_Ponyo_bgr, 'Original Channels(BGR)' )
f_imshow(axs[1], r, 'Red Channel')
f_imshow(axs[2], g, 'Green Channel')
f_imshow(axs[3], b, 'Blue Channel')

# Adjust the layout of the subplots
plt.tight_layout(w_pad=0.5)
plt.show()
```

```
Image Size (270, 500, 3)
```