WORKSHEET-1 OUTPUT SCREENSHOTS

```
pip install pillow
```
Requirement already satisfied: pillow in /usr/local/lib/python3.11/dist-packages (11.1.0)

```
[2] from google.colab import drive
    drive.mount('/content/drive')
```
Mounted at /content/drive

```
[13] from PIL import Image

     image_colored = Image . open ("/content/drive/MyDrive/AI and ML/lenna_image.png")
     display ( image_colored )
```
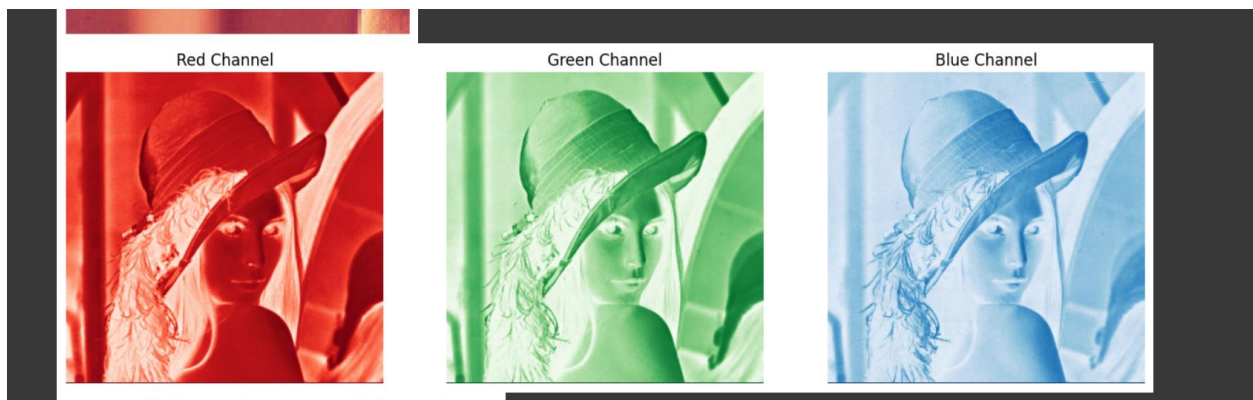


```
import numpy as np

image_array_colored = np . array ( image_colored )
print (" Shape of the image array :", image_array_colored .shape )
```
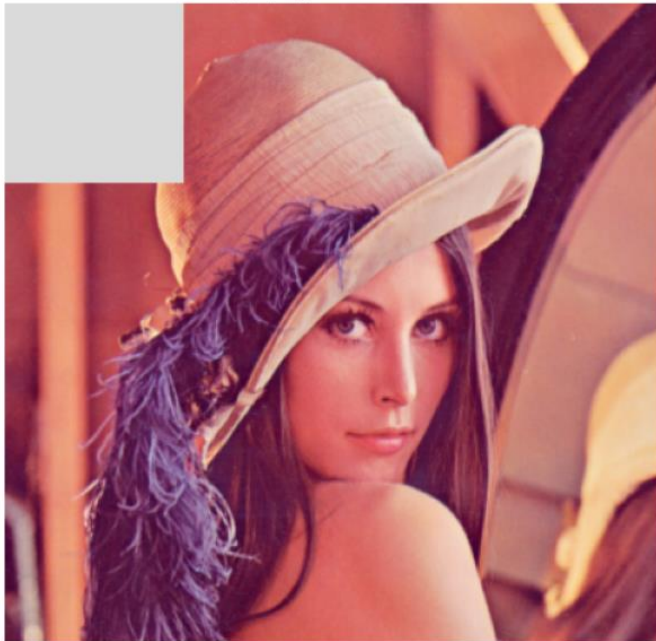Shape of the image array : (357, 366, 4)

Red Channel   Green Channel   Blue Channel

Modified Image (Top 100x100 Pixels = 210)

Rotated Image (90 Degrees Clockwise)

Converted RGB Image
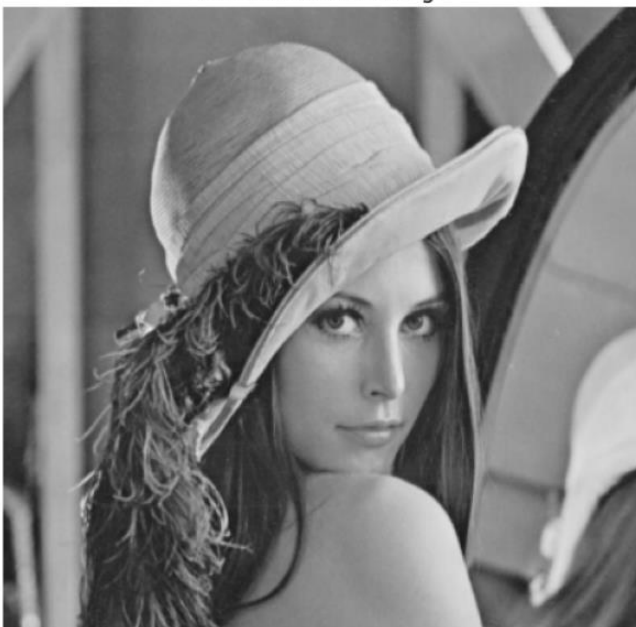
Converted RGB Image

Explained Variance vs Number of Components

Reconstructed Image with 10 Principal Components

Reconstructed Image with 10 Principal Components

Reconstructed Image with 50 Principal Components

Reconstructed Image with 100 Principal Components
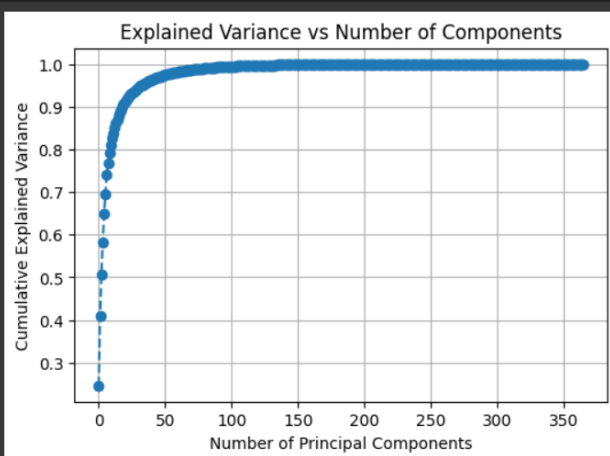
Reconstructed Image with 100 Principal Components

Reconstructed Image with 200 Principal Components