



Application Test

Instructions

1. This test should be completed using Python and we recommend using a Jupyter Notebook for development and submission.
2. Add comments to the main steps of your code (always in English).
3. Keep in mind that your analysis will be presented to a technical audience. Emphasize the results in a clear and understandable manner.

Problem Statement

Read the image provided in the *image.txt* file and perform the following image processing tasks:

1. Implement a function that reads the *image.txt* file and saves the image in PNG format. The resulting image should **look natural**. You can use any python library of your preference for this task.
2. Implement a function that converts the image from RGB to Grayscale. You must implement the algorithm using the image array directly, **without relying on external library functions for grayscale conversion**.
3. Implement a function that replaces all white pixels in the original image with a given RGB color. Again, you must implement this using the image array, **without using external library functions for this operation**.
4. **Bonus Task:**
 - Use Jupyter widgets to interact with your code and display the resulting images.
 - What other simple image processing techniques could you implement? Feel free to explore and demonstrate additional transformations.

Additional Notes

- **Do not** publish this test or your solution's source code on any public platform.
- When submitting your Jupyter Notebook, we encourage you to use a compressed format (.zip, .gz, .7z, etc.).