Experiment 1

Objective:

To develop a Python program that reads an image and performs image scaling and rotation using custom-implemented functions.

Methodology:

1. **Image Acquisition:** Utilise OpenCV to read the input image file into a suitable format.
2. **Scaling:** Implement custom functions for image scaling using both nearest neighbour and bilinear interpolation methods based on a given scaling factor.
3. **Rotation:** Develop custom functions for image rotation using both nearest neighbour and bilinear interpolation methods based on a given rotation angle (theta). 4. **Output:** Save the transformed images using OpenCV or other suitable libraries for both interpolation methods.

Constraints:

1. Use OpenCV only for image reading.
2. Scaling, rotation and interpolation functions must be implemented from scratch.

Deliverables:

Submit a zip file and name it “Exp-01-<Roll no>. The file should contain Code, Read Me File, Input Images, Output Images