Lab 1 Part 2:

Introduction to Computer Vision with OpenCV

This OpenCV lab introduces linear (Box, Gaussian) and non-linear (Median, Bilateral, Morphological) filters through theory, shape demos, cat face examples, comprehensive comparisons, and a student image challenge where they upload any photo, test five strategies, rank by PSNR, and analyze results—submitted as a single PDF report.

File: Extract `OpenCV_101.zip` to get `OpenCV_101.ipynb`

Task: Complete the interactive Colab notebook to learn about image filtering:

1. **Run demos:** Linear filters (Box/Gaussian) on geometric shapes + Gaussian noise
2. **Non-linear filters:** Median/Bilateral/Morphological on salt-and-pepper noise
3. **Comprehensive comparison:** All filters side-by-side (Gaussian vs salt-pepper noise)
4. ***Exercise***: Upload any image → test 5 filter strategies → get automatic PSNR rankings
5. **Analysis:** Fill template explaining why YOUR #1 filter won (theory connection)

Submission:

- Platform: Connect UIR
- `File` → `Print` → `Save as PDF`
- **Name:** `YourName_ID_FiltersLab.pdf`