Introduction.

1. Network credentials: `Laboratorium-IoT /`
2. Github repository - github.com/tocet/prog_devices
3. Py codes - `ex05_opencv.zip`

Task 1. Image scaling - `ex05_t01_images.py`.

Install OpenCV on Raspberry Pi:

randomnerdtutorials.com/install-opencv-raspberry-pi/

```python
import cv2

img = cv2.imread("images/garfield.jpg")

cv2.imshow("Garfield the Cat",img)

def scale_image(img, scale = 0.5):
    h = int(img.shape[0] * scale)
    w = int(img.shape[1] * scale)
    dimensions = (w,h)
    return cv2.resize(img,dimensions,scale,interpolation =
                      cv2.INTER_AREA)

cv2.imshow("Scale Image",scale_image(img))

cv2.waitKey(0)

cv2.destroyWindow("Garfield the Cat")
cv2.destroyWindow("Scale Image")
```

Task 2. Texts and drawings - `ex05_t02_draw_and_text.py`.

Task 3. Image scaling - `ex05_t02_draw_and_text.py`.

Task 4. Image transformations - `ex05_t03_img_transformations.py`.

Task 5. Contours - `ex05_t04_contours.py`.

Task 6. Hello Pi camera - `ex05_t05_camera_test.py`.

Task 7. Pi camera meets Tkinter - `ex05_t06_camera_tkinter.py`.

Task 8. Create a photo booth prototype.
- (0.1 points) an image should be visible in the main window;
- (0.2 points) add 2 touch buttons - Take Photo, Delete Photo;
- (0.1 points) add 3 buttons to the interface - Flip Photo; Rotate Photo; Gray Image;
- (0.1 points) add a widget for setting the photo rotation angle;
- (0.5 points) add an option to place humorous elements on the image, e.g. horns.

For those interested:
1. Pillow documentation:

    pillow.readthedocs.io/en/stable/

2. OpenCV webpage:

    opencv.org

3. OpenCV Tutorial in Python:

    www.geeksforgeeks.org/opencv-python-tutorial/

4. 10 GitHub Repositories to Master Computer Vision:

    www.kdnuggets.com/10-github-repositories-to-master-computer-vision