

# Image Analysis and Processing

## 2nd set of Exercises

**29/04/2022**

It is critical to explain your choices and provide comments for the outputs (intermediate and final).

### Exercise 1

- 1) Find the main edges in image11.jpg.
- 2) Estimate the angle (with respect to the horizontal axis) of the diagonal edges of the roof.
- 3) Find the corners in the image11.jpg.
- 4) Based on the detected corners, locate the windows.

### Exercise 2

- 1) Estimate the angle (with respect to the horizontal axis) of the billiard cue in image31.jpg. To verify your answer, rotate the input image accordingly. The result should be like image32.jpg.

*Hint:*

- Note that the billiard cue is the only object with straight edges.

- 2) Combine image31.jpg and image32.jpg to generate an image like image33.jpg.

*Hints:*

- the billiard cue is the only object which matched the pattern of a very long horizontal line.
- it is very likely that the billiard cue “is connected” with a ball in a binary representation of the image (and it would be useful to separate these objects)