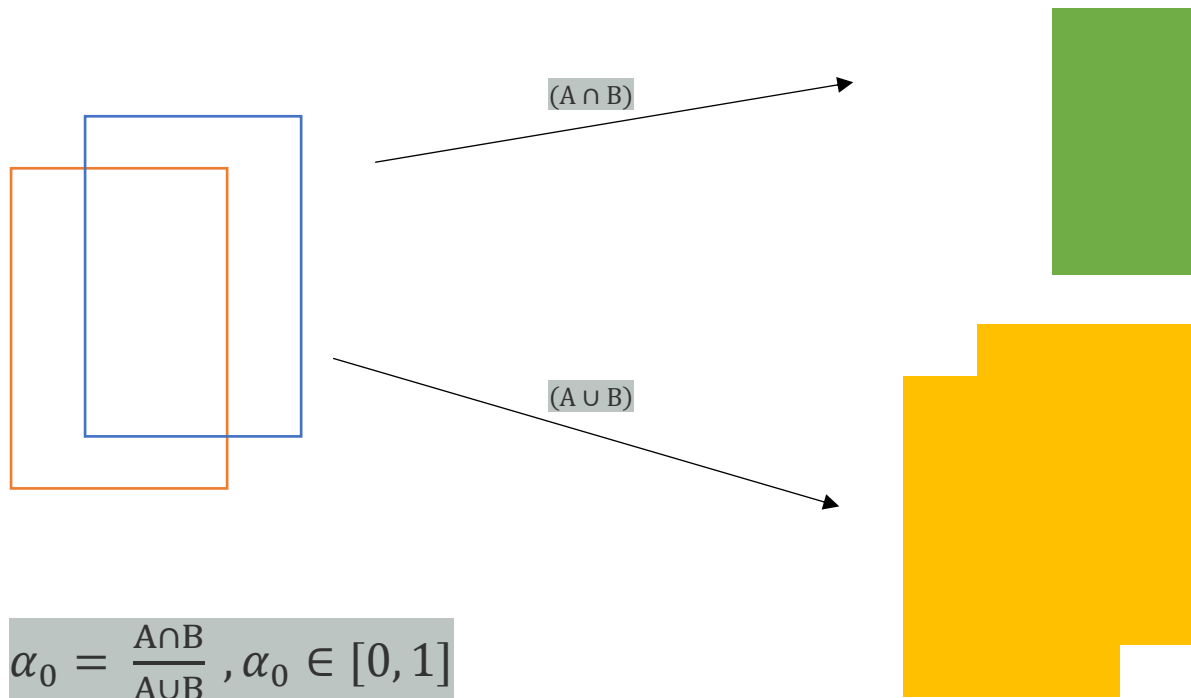


Task 1

a)

Intersection over union is a way to decide if a predicted bounding box with an associated confidence is a correct detection.



b)

$$precision = \frac{\text{correct predictions}}{\text{total predictions}} = \frac{\text{true positives}}{\text{true positives} + \text{false positives}}$$

$$recall = \frac{\text{correct predictions}}{\text{total wanted entries}} = \frac{\text{true positives}}{\text{true positives} + \text{false negatives}}$$

A true positive is a correct prediction. A false positive is a false prediction.

c)

$$\text{average precision class 1} = \frac{1+1+1+0.5+0.2}{5} = 0.74$$

$$\text{average precision class 2} = \frac{1+0.8+0.6+0.5+0.2}{5} = 0.62$$

$$\text{mean average precision} = \frac{0.74+0.62}{2} = 0.68$$