Deep Learning – Lab 4

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Question 7

**Reason for 1783 boxes:**

The number of boxes depends on the threshold value used in the yolo\_filter\_boxes function. This function filters out boxes with confidence scores below the threshold, resulting in a varying number of boxes. In this case, 1783 boxes passed the threshold of 0.5.

**Maximum and minimum number of boxes:**

The maximum number of boxes would be obtained when the threshold is set to 0, allowing all boxes to pass. The minimum number would be 0 if all boxes have confidence scores below the threshold.

**Experimenting with different values:**

By changing the mean, stddev, and threshold values in lines 2, 4, and 5, respectively, you can observe how these parameters affect the number of boxes and their shapes. This can help you understand the impact of these parameters on the YOLO model's performance.

Question 8

**Advantage of using anchor boxes:**

Anchor boxes are used to predict the bounding boxes of objects in the image.

**The method used to determine the sizes of these anchor boxes:**

The method used to determine the sizes of the anchor boxes in YOLO is based on clustering. A large number of bounding boxes from a diverse dataset are clustered to find the most common sizes and aspect ratios. These clusters are then used to initialize the anchor boxes. The anchor boxes are further refined during training through backpropagation.