7. There are 1783 boxes because, after filtering the YOLO model's predictions (e.g., using confidence thresholding), 1783 bounding boxes remain. The maximum number of boxes could be 1805 (19x19 grid cells × 5 boxes per cell), and the minimum could be 0 if all boxes were filtered out.

8. **Advantages:**

* **Efficiency**: Anchor boxes allow the model to predict bounding boxes more efficiently by simplifying the prediction task.
* **Handling Multiple Object Sizes**: They enable the model to detect objects of various sizes and aspect ratios, improving accuracy.
* **Better Localization**: Anchor boxes provide a reference for bounding box predictions, enhancing localization accuracy.

**Method:** using the k-means clustering algorithm on the training dataset's bounding box dimensions.



