### Question 7

T • Because each cell has five boxes because it has five anchor boxes, the original image had 19x19x5(1805) boxes.   
The Yolo Filter Boxes feature is utilized to filter these boxes with a threshold that exceeds the specified threshold. Based on bw, bh, bx, and by, we are left with 1785 boxes, each of which has a shape of (,4).  
•If the total score of all the boxes is higher than the cutoff, the maximum number of boxes will be awarded. which 1805 will measure 19x19x5.   
  
• If the total score of all the boxes is less than the specified threshold, the minimal number of boxes will be gained. which is going to be (0,4)

Question 8

* Advantage - When using anchor boxes, you can evaluate all object predictions at once. Anchor boxes eliminate the need to scan an image with a sliding window that computes a separate prediction at every potential position.
* How - You usually do some of it manually, and some of it by looking at your dataset and using a clustering algorithm like K-Means. After all, this kind of algorithm can tell you what are the typical anchor boxes used.

### Question 10

* Here no boxes were detected even though there were vehicles and traffic lights.
* The vehicle not being not detected may be mainly due to the shape of the vehicle
* Reason for the traffic light for not being detected maybe due to lighting issues
* Here the vehicle and a traffic light are detected
* The assumptions made in the previous image are supported since the vehicle is detected when only half of the vehicle is shown
* Traffic light score is very close to the threshold in this image therefore that might be the reason they are not detected

### Question 11

Default - max\_boxes=10, score\_threshold=.6, iou\_threshold=.5

#### Decrease score\_threshold(score\_threshold=.5)

* We can see the assumption about score\_threshold was correct since now traffic light detection in 0116.jpg has improved.

#### Increase score\_threshold (score\_threshold=.7)

* We can see the traffic light does not pass the threshold thus is not detected.

#### Decrease iou\_threshold (Iou\_threshold=.2)

* No change

#### Increase iou\_threshold (iou\_threshold=.8)

* No change

#### Decrease max\_boxes(max\_boxes=2)

* No change

#### Increase max\_boxes(max\_boxes=20)

* No change