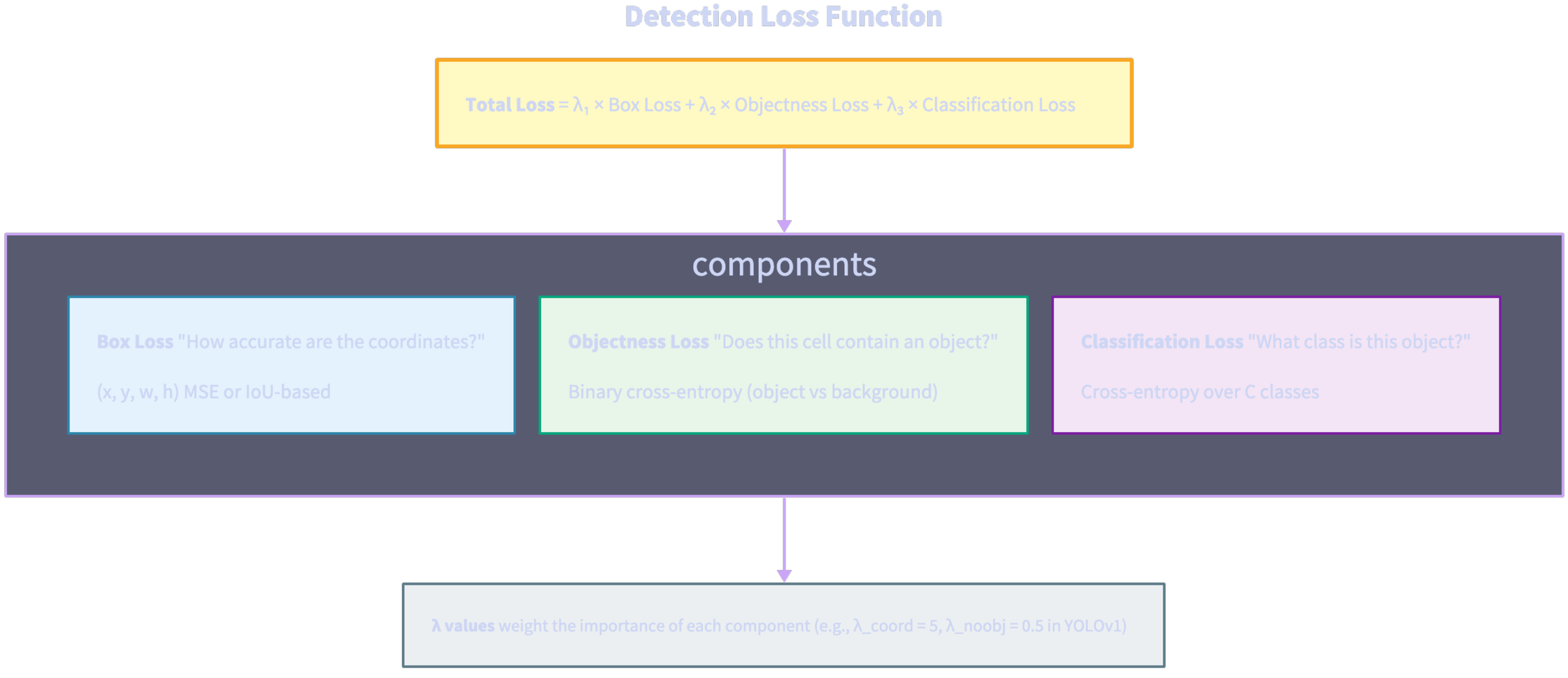
Detection Loss Function
Total Loss = λ1 × Box Loss + λ2 × Objectness Loss + λ3 × Classification Loss
components
Box Loss "How accurate are the coordinates?"
(x, y, w, h) MSE or IoU-based
Objectness Loss "Does this cell contain an object?"
Binary cross-entropy (object vs background)
Classification Loss "What class is this object?"
Cross-entropy over C classes
λ values weight the importance of each component (e.g., λ_coord = 5, λ_noobj = 0.5 in YOLOv1)