(b) [0.5 marks] Manufacturing processes are tightly controlled and maintained to regulate factors such as object (bottle) position relative to the camera and to regulate lighting conditions. Could possible shifts in bottle position (either up or down relative to the camera) affect the results? Explain why or why not bottle position may or may not affect fault detection.

It will affect the results. Because the values of rectangle are invariant, the position of rectangle will not change. If the bottles change their position, either up or down, the image falls in the rectangle can be changed which influences judgment.

(c) [0.5 marks] Image processing algorithms often have a number of parameters that are usually set empirically, such as the positions of the various rectangles and thresholds used in the proposed partial solution. Is your final code sensitive to the location of under\_rect and to the threshold under\_thres? Explain why or why not. In answering this question, you may wish to consider running your code with the following values:  
under\_x = [165, 185, 185, 165];  
under\_y = [150, 150, 165, 165];  
under\_thres = 0.3

Yes, it is. The values of coordinate are changed so that the position of rectangle in the image which is under\_rect is also changed. Different positions can lead to different results. For threshold, changing threshold could make it more or less sensitive to detect products.