

1. Extracted the Red Plan and Blue Plan of the image into image_R and Image_B variables
2. Extracted the middle 1/3 part of the image to consider only central bottle
3. To check No Bottle Condition:
 - a. If number of pixel in blue plan is less than 20000 than there and no cap exist and no coke exist than no bottle exist.
4. To check No cap:

Further dived the image and extracted only top 50 rows, checked if number pixel with less than 50 value in B plan as cap has low Blue value and Background has High blue value. So if Number of Pixel were less than 1700 than there were no Cap
5. To check Overfilling again Extracted the part below the cap and above the allowed limit of coke and counted the number of pixel with low Blue pixels. If any coke exist than the number will be high.
6. To check under Filled bottle:- Similarly in Red plan, number of pixel with low R value is less than 1000 then the bottle is not filled.
7. To check bottle with no Label, I extracted the label part of the image and checked in Red Plan if number of pixel with less red value are more than 500 than no Label exist.
8. To check the not printed label, in blue plan if number of pixel with value greater than 150 is more than 4000, than the label is not printed.
9. Most of the deformed bottle over overfilled.