1. **Draw Rectangular shape and extract objects**

**Aim:**

To draw a rectangular shape in the image to extract objects

**Code:**

import cv2

import numpy as np

import matplotlib.pyplot as plt

image\_path = r"C:\Users\prith\Documents\CV\cvimage4.jpg"

image = cv2.imread(image\_path)

if image is None:

print("Error: Could not load the image. Check the file path.")

exit()

gray = cv2.cvtColor(image, cv2.COLOR\_BGR2GRAY)

blurred = cv2.GaussianBlur(gray, (5, 5), 0)

\_, thresh = cv2.threshold(blurred, 60, 255, cv2.THRESH\_BINARY\_INV)

contours, \_ = cv2.findContours(thresh, cv2.RETR\_EXTERNAL, cv2.CHAIN\_APPROX\_SIMPLE)

output\_image = image.copy()

for contour in contours:

x, y, w, h = cv2.boundingRect(contour)

cv2.rectangle(output\_image, (x, y), (x + w, y + h), (0, 255, 0), 2)

extracted\_object = image[y:y + h, x:x + w]

cv2.imshow('Extracted Object', extracted\_object)

cv2.waitKey(0)

cv2.imshow('Output Image', output\_image)

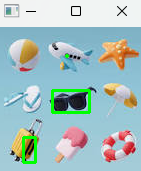
cv2.waitKey(0)

cv2.destroyAllWindows()

**Input:**

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**Output:**

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**Result:**

The python code to draw a rectangular shape in the image to extract objects has been executed successfully.