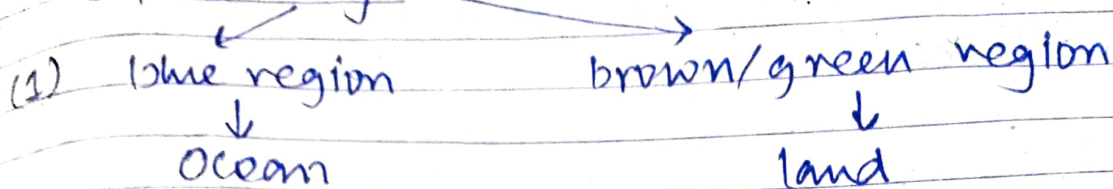


# Search and Rescue [PROBLEM]

Input Image :-



(2) Passengers :  $\star$  (Stars)  $\rightarrow$  Children  
 $\square$  (Squares)  $\rightarrow$  Adults  
 $\Delta$  (triangles)  $\rightarrow$  elderly

(3) Senerity : red  $\rightarrow$  severe  
 yellow  $\rightarrow$  mild condition  
 green  $\rightarrow$  safe

(4) 3 Rescue Pads  
 $\swarrow$   $\searrow$   
 2 on land 1 on water

## \* Priority order of Casualties

(i) Casualties : Star-3 > Triangle-2 > Square-1

(ii) Emergency : Severe-3 > Mild-2 > Safe-1

(3, 2, 1  $\rightarrow$  casualty scores)

\* Max Capacity of Rescue Camps  $\rightarrow$  Pink (3), Blue (4), Grey (2)  
 $\searrow$   $\swarrow$   $\nwarrow$   
 Casualties.

$$\text{Priority (Score)} = \text{Casualty Score} \times \text{Emergency Score}$$

→ In case of similar priority score, a casualty with higher emergency will be given more importance

## Output

- (1) Output image for each input image, that clearly shows difference between ocean and land by overlaying 2 unique colors on top of each other.
- (2) (a) No. of casualties assigned to each of the three camps  
 (b) Details of casualties assigned to each of the three camps
 

(i) Age Group	}	in the order blue, pink, grey
(ii) Medical Emergency		
(iii)		
- (3) (a) Total priority of each of the camps saved in a list  
 (b) Average priority of the image ( $P_r$ )  

$$= \frac{\sum \text{priorities of the Camps}}{\text{No. of casualties}}$$
- (4) A list of the ~~images~~ names of input images, arranged in descending order of their rescue ratio ( $P_r$ )



## PROBLEM APPROACH

HSV much better than RGB  
for color separation

- (1) Image Segmentation
    - Converting Image from BGR to HSV
    - Thresholding
    -

(Here, Saturation, Value)
  - (2) Shape detection using no. of vertices and shape colour using HSV detection
  - (3) Finding centroid and calculating distance between shapes
  - (4) 
$$\text{Base Priority Score} = \text{Shape Priority} \times \text{Emergency Priority}$$
- $$\text{Actual Score} = \frac{\text{Base Priority Score}}{\text{Distance from Rescue Camps of casualties}}$$