ELECTRONICS CLUB, IIT GUWAHATI

Project: Hand Gesture Task 2

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Problem Statement:

1. All the images in the Hand_Gesture_Task_1 folder have different shapes and have only one of the three colours **(Red, Green, Blue).**
2. Task is to find out the following details for each image in the manner as shown below:
    a. Detect all the non-white shapes in the images.
    b. Store the details of these detected shapes in a dictionary in the same order as mentioned below in form of key: value pair, where key is a string in single quotation marks and value is an array of details.
        i. **{'Shape': ['colour', Area, cX, cY]}**
        ii. Example => **{'Circle': ['red', 1011.0, 350, 420]}**
    c. It is mandatory to make sure that each of these details are of definite data type as listed below:
        i. **Key:**
            1. **'Shape' =>** String in single quotation marks, with only first letter capital, can take any one of these values: **Circle/ Triangle/ Trapezium/ Rhombus/ Square/ Quadrilateral/ Parallelogram/ Pentagon/ Hexagon**
        ii. **Value:**
            1. **'colour' =>** String in single quotation marks, with all letters in small caps can take any one of these values: red/ blue/ green
            2. **Area =>** Float value up to one decimal point (area of the detected shape)
            3. **cX =>** Int value (centroid coordinate of shape on horizontal X-axis direction)
            4. **cY =>** Int value (centroid coordinate of shape on vertical Y-axis direction)

Expected Output:

Sample1.png
{'Circle': ['red', 284410.0, 442, 539], 'Square': ['blue', 134684.0, 1026, 539]}

Sample2.png
{'Pentagon': ['green', 75563.0, 587, 332], 'Triangle': ['red', 21699.0, 167, 392]}

Note: This is not the complete output. There are total 4 sample images in output.

For Submission

Make a drive link containing your code and outputs screenshot and submit it in the form.

Form Link: https://forms.office.com/r/4QZHPBTSb5

Deadline: 25 June, 2021.