# PTAI Assignment 3

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#### List of Tasks attempted :

1. 9565186b.json
2. 28bf18c6.json
3. ea786f4a.json

#### Github Link to Solution :

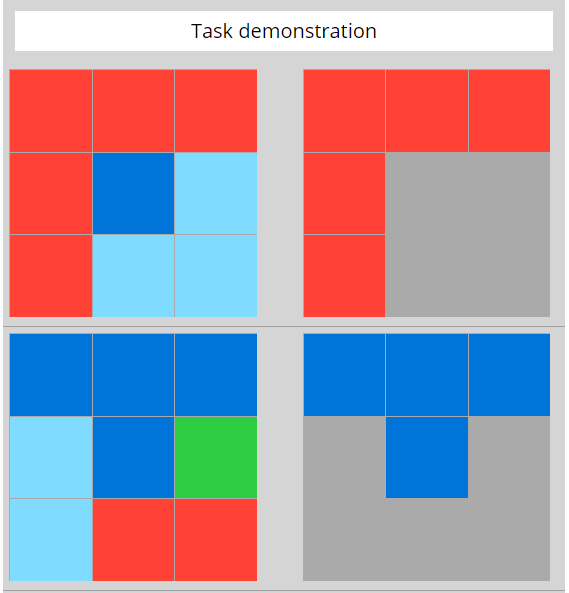
<https://github.com/techdem/ARC/tree/master/src>

#### Task Description :

**Task 9565186b.json :**

**Pattern:**

The pattern in this task is to identify the cells which are colored same in n\*n grid and get all maximum cells colored with a particular color. Consider these cells in the input grid and color all the other cells with grey which makes our output.



**Solution – Solve Method**

Input is passed as python list of lists to the solve method. First step in solve method is to convert the input to numpy array. The coding part is made generic to work for any kind of input color code. To get all the color codes in input, numpy unique function is used which returns color code and count of cells which have that particular color. Then I map it to a dictionary using zip function, and get a dictionary of color code and count of cells which have that color. Then I get the max count which implies that the cells which have this color shouldn’t be altered and assign it to a variable. Then I loop through the input array and compare each element of array with the unaltered code to make these cells unaltered and alter all the other cells with value 5(grey). At the end the function returns the input array with altered cells.

This solution works for all the inputs and outputs given in input file.

**Python Libraries:**

As part of this solution, I have used numpy package. Which is also mentioned in requirements.txt as this package has to be installed before running the solution. Numpy is used to get the unique values from array, here we get unique colors in the grid with count of cells.

#### Task Description :

**Task ea786f4a.json:**

**Pattern:**

The pattern in this task is to identify the color in the center of the input grid and fill both of the diagonals with the same color and leave all of other cells as it is.

**Solution – Solve Method**

Input is passed as python list of lists to the solve method. First step in solve method is to convert the input to numpy array. From this array we get the color of the center cell in the diagonal. And then we fill the diagonals with the selected color using numpy diagonal method.

This solution works for all the inputs and outputs given in input file.

**Python Libraries:**

As part of this solution, numpy is used to fill the diagonals of the matrix with the selected color code.

