### **Question 1 [15 Points]**

Write a function named *replace\_array* that would replace each element of a 2D array with the **magic number**. The **magic number** for an index (i, j) is the minimum between the maximum element in row i and maximum element in column j.

More formally: *min (max(row i), max(col j))*

**[You are not allowed to use any built-in functions like min() or max()]**

**[Hint. You can create separate function(s) for calculating row or col max and take help from them]**

| **Sample Input:** | **Sample Output:** | **Explanation:** |
| --- | --- | --- |
| | **7** | **5** | **6** | | --- | --- | --- | | **1** | **8** | **2** | | **9** | **8** | **7** | | **2** | **8** | **1** | | **4** | **7** | **3** | | | **7** | **7** | **7** | | --- | --- | --- | | **8** | **8** | **7** | | **9** | **8** | **7** | | **8** | **8** | **7** | | **7** | **7** | **7** | | | **7** | **5** | **6** | | --- | --- | --- | | **1** | **8** | **2** | | **9** | **8** | **7** | | **2** | **8** | **1** | | **4** | **7** | **3** |   **Consider index (2, 1). The maximum of row 2 is 9, the maximum of col 1 is 8. Min(9,8)=8, so index (2, 1) will take the value of 8. The process will be the same for all the indices.** |