### **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 defined as

**magic number** **= (Sum of all elements in row i, excluding A[i][j])**

**\* (Sum of all elements in column j, excluding A[i][j]).**

**[You are not allowed to use any built-in functions sum()]**

| **Sample Input:** | **Sample Output:** | **Explanation:** |
| --- | --- | --- |
| | **1** | **2** | **3** | | --- | --- | --- | | **4** | **5** | **6** | | **9** | **8** | **7** | | **2** | **8** | **1** | | | **75** | **84** | **42** | | --- | --- | --- | | **132** | **180** | **99** | | **105** | **240** | **170** | | **126** | **45** | **160** | | **Consider index (2, 1). The Sum of all elements in row 2, excluding A[2][1] is 9+7 = 16. The Sum of all elements in column 1, excluding A[2][1] is 2+5+8=15, so index (2, 1) will take the value of 16\*15=240. The process will be the same for all the indices.** |