1. Implement pow(x, n), which calculates x raised to the power n (i.e. x^n).  
  
Example 1:

Input: x = 2.00000, n = 10  
Output: 1024.00000  
Example 2:  
  
Input: x = 2.10000, n = 3  
Output: 9.26100  
Example 3:  
  
Input: x = 2.00000, n = -2  
Output: 0.25000  
Explanation: 2-2 = 1/22 = 1/4 = 0.25  
  
  
Constraints:  
  
-100.0 < x < 100.0  
-231 <= n <= 231-1  
-104 <= xn <= 104  
  
  
2. Given a string s containing just the characters '(', ')', '{', '}', '[' and ']', determine if the input string is valid.  
  
An input string is valid if:  
  
Open brackets must be closed by the same type of brackets.  
Open brackets must be closed in the correct order.  
  
  
  
3. Given two sorted arrays nums1 and nums2 of size m and n respectively, return the median of the two sorted arrays.  
  
Example 1:  
  
Input: nums1 = [1,3], nums2 = [2]  
Output: 2.00000  
Explanation: merged array = [1,2,3] and median is 2.  
Example 2:  
  
Input: nums1 = [1,2], nums2 = [3,4]  
Output: 2.50000  
Explanation: merged array = [1,2,3,4] and median is (2 + 3) / 2 = 2.5.  
Example 3:  
  
Input: nums1 = [0,0], nums2 = [0,0]  
Output: 0.00000  
Example 4:  
  
Input: nums1 = [], nums2 = [1]  
Output: 1.00000  
Example 5:  
  
Input: nums1 = [2], nums2 = []  
Output: 2.00000  
  
  
Constraints:  
  
nums1.length == m  
nums2.length == n  
0 <= m <= 1000  
0 <= n <= 1000  
1 <= m + n <= 2000  
-106 <= nums1[i], nums2[i] <= 106

4. Implement the following image into a webpage using HTML and CSS and javascript wherever necessary.