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Task: Assignment

Java

A. **Shuffle an Array:**

```
import java.util.Random;
public class ArrayShuffle {
 public static void main(String[] args) {
 int[] arr = {1, 2, 3, 4, 5, 6, 7};
 shuffleArray(arr);
 for (int num : arr) {
 System.out.print(num + " ");
 }
 }
 public static void shuffleArray(int[] arr) {
 Random rand = new Random();
 for (int i = arr.length - 1; i > 0; i--) {
 int j = rand.nextInt(i + 1);
 int temp = arr[i];
 arr[i] = arr[j];
 arr[j] = temp;
 }
 }
}
```

B. Convert Roman Numeral to Integer:

```
public class RomanToInteger {
 public static void main(String[] args) {
 String roman = "IX";
 int result = romanToInteger(roman);
 System.out.println(result);
 }
 public static int romanToInteger(String s) {
 int result = 0;
 for (int i = 0; i < s.length(); i++) {
 int currentVal = getValue(s.charAt(i));
 if (i + 1 < s.length()) {
 int nextVal = getValue(s.charAt(i + 1));
 if (currentVal < nextVal) {
 result -= currentVal;
 } else {
 result += currentVal;
 }
 } else {
 result += currentVal;
 }
 }
 return result;
 }
 public static int getValue(char roman) {
 switch (roman) {
 case 'I':
 return 1;
 case 'V':
 return 5;
```

```
case 'X':
return 10;
case 'L':
return 50;
case 'C':
return 100;
case 'D':
return 500;
case 'M':
return 1000;
default:
return 0;
}
}
}
```

C. Check if a String is a Pangram:

```
public class PangramChecker {
 public static void main(String[] args) {
 String input = "The quick brown fox jumps over the lazy dog";
 boolean isPangram = isPangram(input);
 System.out.println(isPangram);
 }
 public static boolean isPangram(String s) {
 s = s.toLowerCase();
 boolean[] alphabet = new boolean[26];
 for (int i = 0; i < s.length(); i++) {
 char c = s.charAt(i);
 if (c >= 'a' && c <= 'z') {
 alphabet[c - 'a'] = true;
 }
 }
 for (boolean letter : alphabet) {
 if (!letter) {
 return false;
 }
 }
 return true;
 }
}
```

JAVASCRIPT

A. **Reverse Words in a Sentence:**

```
function reverseWords(sentence) {
 const words = sentence.split(' ');
 const reversedWords = words.map(reverseWord);
 return reversedWords.join(' ');
}
function reverseWord(word) {
 let reversed = '';
 for (let i = word.length - 1; i >= 0; i--) {
 reversed += word[i];
 }
 return reversed;
}
const inputSentence = "This is a sunny day";
const reversedSentence = reverseWords(inputSentence);
console.log(reversedSentence);
```

B. Sort an Array in Descending Order:

```
function bubbleSortDescending(arr) {
 let n = arr.length;
 let swapped;
 do {
 swapped = false;
 for (let i = 0; i < n - 1; i++) {
 if (arr[i] < arr[i + 1]) {
 // Swap elements if they are in the wrong order (descending).
 let temp = arr[i];
 arr[i] = arr[i + 1];
 arr[i + 1] = temp;
 swapped = true;
 }
 }
 } while (swapped);
 return arr;
}
const inputArray = [5, 2, 9, 1, 5, 6];
const sortedArray = bubbleSortDescending(inputArray);
console.log(sortedArray);
```