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public class ArrayOps {
    public static void main(String[] args) {

    }

    public static int findMissingInt (int[] array) {
        int[] array2 = new int[array.length + 1];
        int missing = 999;

        for(int i = 0 ; i < array2.length; i++){
            array2[i] = i;
        }

        for(int i = 0; i < array2.length; i++){
            Boolean didFind = false;

            for(int j = 0; j < array.length; j++){
                if(array[j]==array2[i]){
                    didFind = true;
                }
            }
            if(!didFind){
                missing = array2[i];
                break;
            }
        }
        return missing;
    }

    public static int secondMaxValue(int [] array) {
        int sec;
        int max;

        if(array[0] >= array[1]){
            sec = array[1];
            max = array[0];
        }

        else{
            sec = array[0];
            max = array[1];
        }

        for(int i = 0; i < array.length; i++){

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        if(array[i] >= max){
            sec = max;
            max = array[i];
        }
    }
    return sec;
}

public static boolean containsTheSameElements(int []
array1,int [] array2) {

    for(int i =0; i < array1.length; i++){
        Boolean isContaining = false;
        for(int j=0; j < array2.length; j++){
            if(array1[i] == array2[j]){
                isContaining = true;
                break;
            }
        }
        if(!isContaining){return false;}
    }
    return true;
}

public static boolean isSorted(int [] array) {
    Boolean isSortedDecreasingly = true;
    Boolean isSortedIncreasingly = true;
    int min = array[0];
    for(int i =0; i < array.length; i++){
        if(array[i] >= min){
            min = array[i];
        }
        else{
            isSortedIncreasingly = false;
        }
    }

    int max = array[0];
    for(int i =0; i < array.length; i++){
        if(array[i] <= max){
            max = array[i];
        }
        else{
            isSortedDecreasingly = false;
        }
    }
}

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        return (isSortedDecreasingly ||
isSortedIncreasingly);
    }

}

    public static void main(String[] args) {
        String s = "One two thRee world";
        System.out.println(capVowelsLowRest(s));

    }
    private static boolean isVowel(char ch){
        //checking if the letter is vowel type
        if(ch == 'A' || ch == 'E' || ch == 'O' || ch ==
'U' || ch == 'I' || ch == 'a' || ch == 'o' || ch == 'u' ||
ch == 'e' || ch == 'i'){
            return true;
        }
        else {return false;}
    }

    private static boolean lowVowel(char ch){
        //Checking if a char is a low vowel
        if(ch == 'a' || ch == 'e' || ch == 'o' || ch ==
'i' || ch == 'u'){
            return true;
        }
        else{return false;}
    }

    public static String capVowelsLowRest (String string)
{
    String output = "";
    for(int i = 0; i < string.length(); i++){
        if(isVowel(string.charAt(i))){
            if(lowVowel(string.charAt(i))){
                output = output +
((char)(string.charAt(i) - 32));
            }
            else {

                output = output + string.charAt(i);
            }
        }
        else{
            if(string.charAt(i) < 91 &&
string.charAt(i) > 64){
                output = output +
((char)(string.charAt(i) + 32));
            }
        }
    }
}

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        else{
            output = output + string.charAt(i);
        }
    }
    return output;
}

private static String lowerAll(String str){
    //lowering the letters in the whole string
    String out = "";
    for(int i = 0 ; i < str.length(); i++){
        if(str.charAt(i) > 64 && str.charAt(i) < 91)
        {
            out = out+ ((char)(str.charAt(i) + 32));
        }
        else{out = out + str.charAt(i);}
    }
    return out;
}

private static String cutOuterSpaces(String str){
    //cutting spaces at the edges of the string
    while(str.charAt(0) == ' ' ||
str.charAt(str.length()-1) == ' '){
        if(str.charAt(0) == ' '){
            str = str.substring(1, str.length());
        }
        if(str.charAt(str.length()-1) == ' '){
            str = str.substring(0, str.length()-1);
        }
    }
    return str;
}

private static String upperFirstCharOfWord(String
str){
    //uppering first letters of words
    String out = "";
    for(int i = 0; i < str.length(); i++){
        if(str.charAt(i) == ' ' && (i+1) <
str.length()){
            if(str.charAt(i+1) > 96 &&
str.charAt(i+1) < 123){
                out = out + " " +
(char)(str.charAt(i+1) -32);
            }
        }
    }
    return out;
}

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        i++;
    }
}

else{
    out = out + str.charAt(i);
}

}
return out;
}

private static String removeSpace(String str){
    //removing spaces between words
    String out = "";
    for(int i = 0; i < str.length(); i++){
        if(!(str.charAt(i) == ' ')){
            out = out + str.charAt(i);
        }
    }
    return out;
}

public static String camelCase (String string) {
    String output = lowerAll(string);
    output = cutOuterSpaces(output);
    output = upperFirstCharOfWord(output);
    output = removeSpace(output);
    if(output.charAt(0) > 64 && output.charAt(0) <
91)//lowering the first letter
    {
        output = (char)(output.charAt(0) + 32) +
output.substring(1, output.length()-1);
    }
    return output;
}

public static int[] allIndexOf (String string, char
chr) {
    int counter =0;
    int counter2 = 0;
    for(int i = 0; i < string.length(); i++){
        if(string.charAt(i) == chr){
            counter++;
        }
    }

    int [] array = new int[counter];
    for(int i = 0; i < string.length(); i++){

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        if(string.charAt(i) == chr){  
            array[counter2] = i;  
            counter2++;  
        }  
    }  
    return array;  
}
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