Muofhe Sikhauli

1.Array

**package** Week4.day5;

**import** java.util.HashMap;

**public** **class** MajorityElement {

**public** **static** **int** majorityElement(**int**[] nums) {

HashMap<Integer, Integer> countMap = **new** HashMap<>();

**for** (**int** num : nums) {

countMap.put(num, countMap.getOrDefault(num, 0) + 1);

}

**int** majorityCount = nums.length / 2;

**for** (**int** key : countMap.keySet()) {

**if** (countMap.get(key) > majorityCount) {

**return** key;

}

}

**return** -1;

}

**public** **static** **void** main(String[] args) {

**int**[] nums1 = {3, 2, 3};

System.***out***.println(*majorityElement*(nums1));

**int**[] nums2 = {2, 2, 1, 1, 1, 2, 2};

System.***out***.println(*majorityElement*(nums2));

}

}

2.String

**package** Week4.day5;

**import** java.util.Stack;

**public** **class** ValidInputs {

**public** **static** **boolean** isValid(String s) {

Stack<Character> stack = **new** Stack<>();

**for** (**char** c : s.toCharArray()) {

**if** (c == '(' || c == '{' || c == '[') {

stack.push(c);

} **else** {

**if** (stack.isEmpty()) {

**return** **false**;

}

**char** top = stack.pop();

**if** ((c == ')' && top != '(') || (c == '}' && top != '{') || (c == ']' && top != '[')) {

**return** **false**;

}

}

}

**return** stack.isEmpty();

}

**public** **static** **void** main(String[] args) {

System.***out***.println(*isValid*("()"));

System.***out***.println(*isValid*("()[]{}"));

System.***out***.println(*isValid*("(]"));

System.***out***.println(*isValid*("([])"));

}

}

3.count of digits in array of strings

**package** Week4.day5;

**public** **class** StringElements {

**public** **static** **int**[] countDigits(String[] b) {

**int**[] count = **new** **int**[b.length];

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

**int** digitCount = 0;

**for** (**char** c : b[i].toCharArray()) {

**if** (Character.*isDigit*(c)) {

digitCount++;

}

}

count[i] = digitCount;

}

**return** count;

}

**public** **static** **void** main (String[] args) {

String[] b1 = {"abc123", "def45", "ghi7890"};

String[] b2 = {"7sad9", "hgds99", "hfd7#81"};

String[] b3 = {"!@#$", "1234", "abcd"};

System.***out***.println(java.util.Arrays.*toString*(*countDigits*(b1)));

System.***out***.println(java.util.Arrays.*toString*(*countDigits*(b2)));

System.***out***.println(java.util.Arrays.*toString*(*countDigits*(b3)));

}

}