

NAME: _____

TRISECT INSTITUTE**JPR-M3**

DATE: _____

Java Practice

Task 1	Given an array of integer as input, count the single digit numbers in the array. Note that all the numbers in the array are non negative.	
Test Cases	Input	Expected Output
	{4,14,6,12,345,5,1}	Single Digit : 4
	{1,4,8,12,15,2,5,9,1}	Single Digit : 7
	{20,30,40,50.60}	Single Digit : 0

Task 2	Given an array of integer as input, find out which of the first or last element is larger and change all the values of the array to that. Print the changed array.	
Test Cases	Input	Expected Output
	{4,8,12,20,6}	{6,6,6,6,6}
	{10,8,6,4,2,0}	{10,10,10,10,10,10}
	{10,20}	{20,20}
	{40}	{40}
	{30,40,30}	{30,30,30}

Task 3	Given an array of integer as input, print true if two even numbers appear next to each other in the array.	
Test Cases	Input	Expected Output
	{1,2,3,4,5,6}	2Evens : false
	{2,4,5,7,8,9,10}	2Evens : true
	{1,3,5,7,8,8}	2Evens : true
	{46,54}	2Evens : true
	{8,9,11,13,15,10}	2Evens : false
	{24}	2Evens : false

Task 4	Given an array of integer as input, print true if two even numbers and two odd numbers appear next to each other in the array.	
Test Cases	Input	Expected Output
	{1,2,3,9,4,5,6}	2Odd+2Even : false
	{2,4,5,7,8,9,10}	2Odd+2Even : true
	{1,3,5,12,7,8,8}	2Odd+2Even : true
	{12,88,66}	2Odd+2Even : false
	{18,19,11,13,15,20}	2Odd+2Even : false
	{36}	2Odd+2Even : false

Task 5	Given an array of integers as input, create a new array which contains the sum of elements appearing next to each other in the original array. Note that the size of the new array will be 1 less than that of the input array.	
	Input	Expected Output

Test Cases	{1,2,3,4,5,6}	{3,5,7,9,11}
	{5,20,50}	{25,70}
	{10,8,0,20}	{18,8,20}
	{23,45}	{68}
	{12}	{}

Task 6	Given an array of integer as input, print true if three even numbers appear next to each other in the array.	
Test Cases	Input	Expected Output
	{1,2,3,4,5,6}	3Evens : false
	{2,4,5,7,8,9,10,14,20}	3Evens : true
	{2,10,12,1,3,5,7,8,8}	3Evens : true
	{46,54,88}	3Evens : true
	{8,12,9,11,16,20,13,18,10}	3Evens : false
	{2,13,4,6,8,12,14,23,35}	3Evens : true

Task 7	Given two arrays of equal length as input create the sum product, i.e. the elements at the same index of both the arrays are multiplied and then added.	
Test Cases	Input	Expected Output
	{1,2,3},{5,10,20}	85 (because 1*5+2*10+3*20)
	{8},{9}	72 (because 8*9=72)
	{2,3},{4,9}	35 (because 2*4+3*9=35)
	{0,0,0,0},{2,3,4,5}	0
	{10,20,30,40,50},{1,1,1,1,1}	150

Task 8	Given two arrays of integer as input, create a new merged array. The elements of the second array appear after the first array in the new merged array. Print the new merged array.	
Test Cases	Input	Expected Output
	{1,2,3}, {4,5,6,7}	{1,2,3,4,5,6,7}
	{}, {2,12,34}	{2,12,34}
	{2,12,34,56}, {}	{2,12,34,56}
	{10,14,16,18,20}, {22,24}	{10,14,16,18,20,22,24}

Task 9	Given an array of string as input, count the number of strings starting with a, b and c. Also print the strings	
Test Cases	Input	Expected Output
	{"a","car","is","going"}	Count : 2 Strings : a,car,
	{"q","w","e","a","g","c","cat"}	Count : 3 Strings : a,c,cat,
	{"bear","bell","call","all"}	Count : 4 Strings : bear,bell,call,all,

Task 10	Given an array of string as input, create a string consisting of the first character of each string in the array.	
Test Cases	Input	Expected Output
	{"Trisect", "Java", "Master"}	TJM
	{"Hello", "how", "are", "you"}	Hhay
	{"Job", "Ready", "Java"}	JRJ

Task 11	Given an array of string as input, create an array of the strings ending in e or t.	
Test Cases	Input	Expected Output
	{"Name", "Fame", "Trisect"}	{"Name", "Fame", "Trisect"}
	{"cat", "bite", "roar", "had", "lamb"}	{"cat", "bite"}
	{"Job", "Ready", "Java"}	{}

Task 12	Given an array of string and a string as input, create an array where the occurrences of the input string have been removed.	
Test Cases	Input	Expected Output
	{"Java", "Master", "Job", "Ready", "Java"}, "Java"	{"Master", "Job", "Ready"}
	{"12", "24", "12", "36", "12"}, "12"	{"24", "36"}

Task 13	Given an array sorted in ascending array, create a new array where the elements have been sorted in descending order. Hint : note that this is like reversing the array.	
Test Cases	Input	Expected Output
	{1, 2, 3, 4, 5}	{5, 4, 3, 2, 1}
	{20}	{20}
	{3, 3, 3}	{3, 3, 3}
	{10, 10, 44, 57}	{57, 44, 10, 10}

Task 14	Given two array of integers of equal length, merge the arrays in the following manner. The new array will contain the 1st element of array1, then 1st element of array2, then 2nd element of array1, then 2nd element of array2 and so on.	
Test Cases	Input	Expected Output
	{1, 2, 3}, {10, 20, 30}	{1, 10, 2, 20, 3, 30}
	{1, 3, 5, 7, 9}, {2, 4, 6, 8, 10}	{1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
	{10}, {20}	{10, 20}
	{}, {}	{}

Task 15	Given an array of integer as input, each non multiple of 5 is changed to the earlier multiple of 5 in the array. Note that no element will be changed till a multiple of 5 is encountered in the array.	
Test Cases	Input	Expected Output
	{1, 2, 4, 5, 7, 8, 10, 12}	{1, 2, 4, 5, 5, 5, 10, 10}
	{5, 6, 7, 8, 9}	{5, 5, 5, 5, 5}

	{10, 20, 30}	{10, 20, 30}
	{1, 4, 8, 16}	{1, 4, 8, 16}

Task 16	Given an array of integer as input, print all the even numbers in the array that are surrounded by an odd number on both sides.	
Test Cases	Input	Expected Output
	{1, 2, 3, 4, 5, 6, 7, 8}	Surrounded: 2, 4, 6,
	{6, 7, 8, 9}	Surrounded: 8,
	{10, 20, 30, 40}	Surrounded:
	{1, 2, 4, 5, 7, 8, 10, 12}	Surrounded:

Task 17	Given an array of integer as input, count the number of times a series of same numbers occurs in the array. Also print the numbers occurring together.	
Test Cases	Input	Expected Output
	{10, 20, 20, 30, 32, 32, 32, 34}	Count: 2 Numbers: 20, 32,
	{6, 7, 6, 7, 6, 7, 6, 7}	Count: 0 Numbers:
	{8, 8, 8, 8, 8}	Count: 1 Numbers: 8,
	{1, 1, 2, 2, 3, 3, 4, 4, 5, 6, 7, 8, 8}	Count: 4 Numbers: 1, 2, 3, 4, 8,

Task 18	Given an array of integer as input, find the length of longest series of same numbers in the array. Also print the number in the longest series.	
Test Cases	Input	Expected Output
	{10, 20, 20, 30, 32, 32, 32, 34}	Length: 3 Number: 32
	{6, 1, 6, 2, 6, 3, 6, 7, 6, 7, 7}	Length: 2 Number: 7
	{8, 8, 8, 8, 8}	Length: 5 Number: 8
	{1, 1, 1, 2, 2, 3, 3, 4, 4, 5, 6, 7, 8, 8}	Length: 3 Number: 1

Task 19	Given two array of integers, merge the arrays in the following manner. The new array will contain the 1st element of array1, then 1st element of array2, then 2nd element of array1, then 2nd element of array2 and so on. The two arrays can be of any size. If any array is over then the remaining elements of the remaining array are copied into the new array.	
Test Cases	Input	Expected Output
	{1, 3, 5, 7}, {2, 4}	{1, 2, 3, 4, 5, 7}
	{1, 3}, {2, 4, 6, 8, 10}	{1, 2, 3, 4, 6, 8, 10}
	{11, 22, 33}, {15, 25, 35}	{11, 15, 22, 25, 33, 35}
	{}, {1, 2, 3, 4, 5}	{1, 2, 3, 4, 5}
	{2}, {}	{2}