Nested Loops, Arrays, Strings

1. Given an array. Compute the length of the array. (without using .length)

Input	Output
[1, 12, 4]	3
[-1, 0, 1, 2]	4
[]	0
[-1, 0.4]	2

2. Given an array of numbers. Print the sum of the elements in array.

Input	Output
[1, 12, 4]	17
[-1, 0, 1, 2]	2
[]	0
[-1, 0.4]	0.6

3. Given three numbers **a, b** (a ≤ b) and **step.** Create an array of evenly spaced elements starting from **a** to **b** spaced by **step**.

Input	Output
1 5 1	[1, 2, 3, 4, 5]
10 100 20	[10, 30, 50, 70, 90]
1 5 0.5	[1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5]

4. Given a string and a symbol. Find the number of occurrences of the symbol in the string.

Input	Output
“Some text here”, “a”	0
“another string”, “t”	2

5. Given a string. Check whether the string is palindrome or not.

Input	Output
“racecar”	“yes”
“T”	“Yes”
“”	“No”
“palindrome”	“No”

6. Given an array of numbers. Find the maximum element in array.

Input	Output
[1, 10, 2, 2, 3]	10
[1, 4, 43, -112]	43

7. Given an array of strings. Print the concatenation of all elements.

Input	Output
[‘hello’, ‘,’ , ‘ ’, ‘world’]	“hello, world”
[‘a’, ‘c’, ‘a’]	“aca”

8. Given an array. Create the array which elements are products between two neighbours.

Input	Output
[3, 7, 12, 5, 20, 0]	[21, 84, 60, 100, 0]
[1, 1, 4, 32, 6]	[1, 4, 128, 192]

9. Given an array of numbers. Create an array containing only elements once.

Input	Output
[1, 2, 3, 3, 2, 5]	[1, 2, 3, 5]
[4, 4]	[4]

10. Given a string and symbols. Change first symbol by the second one in the string.

Input	Output
“The results are not recorded yet”, “t”, “w”	“The resulws are now recorded yew”
“does the following code”, “o”, “0”	“d0es the f0ll0wing c0de”

11. Insert a string. Create new string which is the mirror reverse of the inserted one around its center.

Input	Output
“stranger”	“ngerstra”
“rotator”	“torarot”

12. Given an array of numbers. Print frequency of each unique number. (Frequency is the count of particular element divided by the count of all elements)

Input	Output
[1, 1, 2, 2, 3]	1: 0.4 2: 0.4 3: 0.2
[4, 4]	4: 1
[1, 2, 3]	1: 0.3333333333333333 2: 0.3333333333333333 3: 0.3333333333333333

13. Print the following number pattern: (Change)

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1
12
123
1234
12345
1234
123
12
1
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