Nested Loops, Arrays, Strings

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

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

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

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

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

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| **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] |

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

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

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

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

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

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

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

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

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

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

1. Given an array of numbers. Create an array containing only unique elements.

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

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

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| **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” |

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

1. 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)

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| **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 |

1. Print the following number pattern:

1  
 12  
 123  
 1234  
 12345  
 1234  
 123  
 12  
 1