Problem - 01

Given a non-negative integer x, compute and return the square root of x.

Since the return type is an integer, the decimal digits are truncated, and only the integer part of the result is returned.

Example 1:

Input: x = 4

Output: 2

Example 2:

Input: x = 8

Output: 2

Explanation: The square root of 8 is 2.82842..., and since the decimal part is truncated, 2 is returned.

Problem - 02

Given an integer array nums of length n, you want to create an array ans of length 2n where ans[i] == nums[i] and ans[i + n] == nums[i] for 0 <= i < n (0-indexed).

Specifically, ans is the concatenation of two nums arrays.

Example 1:

Input: nums = [1,2,1]

Output: [1,2,1,1,2,1]

Explanation: The array ans is formed as follows:

- ans = [nums[0],nums[1],nums[2],nums[0],nums[1],nums[2]]

- ans = [1,2,1,1,2,1]

Example 2:

Input: nums = [1,3,2,1]

Output: [1,3,2,1,1,3,2,1]

Explanation: The array ans is formed as follows:

- ans = [nums[0],nums[1],nums[2],nums[3],nums[0],nums[1],nums[2],nums[3]]

- ans = [1,3,2,1,1,3,2,1]

Problem - 03

Given an array nums. We define a running sum of an array as runningSum[i] = sum(nums[0]…nums[i]). Return the running sum of nums.

Example 1:

Input: nums = [1,2,3,4]

Output: [1,3,6,10]

Explanation: Running sum is obtained as follows: [1, 1+2, 1+2+3, 1+2+3+4].

Example 2:

Input: nums = [1,1,1,1,1]

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

Explanation: Running sum is obtained as follows: [1, 1+1, 1+1+1, 1+1+1+1, 1+1+1+1+1].

Problem - 04

You are given an array `items`, where each $items[i] = [type_i, color_i, name_i]$ describes the type, color, and name of the i^{th} item. You are also given a rule represented by two strings, `ruleKey` and `ruleValue`.

The i^{th} item is said to match the rule if **one** of the following is true:

- `ruleKey == "type"` and `ruleValue ==` $type_i$.
- `ruleKey == "color"` and `ruleValue ==` $color_i$.
- `ruleKey == "name"` and `ruleValue ==` $name_i$.

Return *the number of items that match the given rule*.

Example 1:

Input: items = [["phone","blue","pixel"],["computer","silver","lenovo"],["phone","gold","iphone"]], ruleKey = "color", ruleValue = "silver"

Output: 1

Explanation: There is only one item matching the given rule, which is ["computer","silver","lenovo"].

Example 2:

Input: items = [["phone","blue","pixel"],["computer","silver","phone"],["phone","gold","iphone"]], ruleKey = "type", ruleValue = "phone"

Output: 2

Explanation: There are only two items matching the given rule, which are ["phone","blue","pixel"] and ["phone","gold","iphone"]. Note that the item ["computer","silver","phone"] does not match.