Q1. Given an array. Find the number X in the array. If the element is present, return the index of the element, else print “Element not found in array”. Input the size of array, array from user and the element X from user. Use Linear Search to find the element.

Ans. https://github.com/PRAVALSHARMA/PW\_JAVA\_DSA\_ASSIGNMENT.git

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2. Given an array and an integer “target”, return the last occurrence of “target” in the array. If the target is not present return -1.

Input 1: arr = [1 1 1 2 3 4 4 5 6 6 6 6] ,

target = 4

Output 1: 6

Input 2: arr = [2 2 2 6 6 18 29 30 30 30],

target = 15

Output 2: -1

Ans. https://github.com/PRAVALSHARMA/PW\_JAVA\_DSA\_ASSIGNMENT.git

Q3. Given a sorted binary array, efficiently count the total number of 1’s in it.

Input 1: arr = [0 0 0 0 1 1 1 1 1 1]

Output 1: 6

Input 2: arr = [ 0 0 0 0 0 1 1]

Output 2: 2

Ans. https://github.com/PRAVALSHARMA/PW\_JAVA\_DSA\_ASSIGNMENT.git

Q4. Given a sorted integer array containing duplicates, count occurrences of a given number. If the element is not found in the array, report that as well.

Ans. https://github.com/PRAVALSHARMA/PW\_JAVA\_DSA\_ASSIGNMENT.git

Q5: Given a positive integer num, return true if num is a perfect square or false otherwise. A perfect square is an integer that is the square of an integer.

In other words, it is the product of some integer with itself.

Example 1: Input: num = 16

Output: true

Explanation: We return true because 4 \* 4 = 16 and 4 is an integer.

Example 2: Input: num = 14

Output: false

Explanation: We return false because 3.742 \* 3.742 = 14 and 3.742 is not an integer

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Ans. https://github.com/PRAVALSHARMA/PW\_JAVA\_DSA\_ASSIGNMENT.git