

1. Given an array of integers. Write a program to calculate the product of a particular number and its previous number using linear search.

Sample Input: [1, 4, 5, 7, 8, -2, 6, 0, 19, -15]

Number: 5

Output : $5 * 4 = 20$

2. Given a sorted array of non-negative distinct integers, find the smallest missing non-negative element in it using binary search.

Input: [0, 1, 2, 3, 4, 6, 9, 11, 15]

Output: The smallest missing element is 5

3. Given an array of integers. Write a program to calculate the sum of a particular number and three numbers following that number using linear search.

Sample Input: 1, 4, 5, 7, 8, -2, 6, 0, 19, -15

Number: 5

Output : $5 + 7 + 8 - 2 = 18$

4. Determine the number of repetitions of the positive numbers from an array, using binary search.

Sample Input: -5, -4, -4, -3, -3, -3, 0, 5, 5, 5, 5, 7, 8, 8, 9, 10

Output :

Number: 5 Count: 4

Number: 8 Count: 2