**Set-10**

Q1. Given an array arr[], the task is to find the maximum number of distinct numbers in arr after at most K changes. In each change pick any element X from arr and change it to Y such that L <= Y <= R.

Examples:

Input: arr[] = {1, 2, 1, 4, 6, 4, 4}, L = 1, R = 5 and K = 2

Output: 6

Explanation:

Following are the operations performed on the given array elements:

1. Changing arr[2] to 3 modifies array to {1, 2, 3, 4, 6, 4, 4}

2. Changing arr[3] to 5 modifies array to {1, 2, 3, 5, 6, 4, 4}

Input: arr[] = {1, 2, 1, 4, 6, 4, 4}, L = 1, R = 5 and K = 1

Output: 5

Q2. Given an array arr[] consisting of N integers and a positive integer K, the task is to find the sum of all the subsets of size K.

Examples:

Input: arr[] = {1, 2, 4, 5}, K = 2

Output: 36

Explanation:

The subsets of size K(= 2) are = {1, 2}, {1, 4}, {1, 5}, {2, 4}, {2, 5}, {4, 5}. Now, the sumof all subsets sum = 3 + 5 + 6 + 6 + 7 + 9 = 36.

Input: arr[] = {2, 4, 5, 6, 8}

Output: 150

Q3. Given a binary string S, the task is to find the minimum number of characters the needed to be flipped to make the given binary string increasing.

Example:

Input: S = “00110”

Output: 1

Explanation: Flip S[4] = ‘0’ to ‘1’ of the string modifies the given string to “00111”. Therefore, the minimum number of flips required is 1.

Input: S = “010110”

Output: 2