

1. **Write a program which finds the first occurrence(index) of a given number in an array containing duplicate elements. (Use Binary Search)**

For Eg:- Input => arr = [2,5,9,11,11,11,11,15] and x = 11
Output = 3

Input => arr = [101,110,114,114,114,114,1001] and x = 114
Output = 2

2. **Write a program which finds the last occurrence(index) of a given number in an array containing duplicate elements. (Use Binary Search)**

For Eg:- Input => arr = [2,5,9,11,11,11,11,15] and x = 11
Output = 6

Input => arr = [101,110,114,114,114,114,1001] and x = 114
Output = 5

3. **Write a program which returns the count of a given number in an array using binary search concept.**

For Eg:- Input => arr = [2,5,9,11,11,11,11,15] and x = 11
Output = 4

Input => arr = [101,110,114,114,114,1001] and x = 114
Output = 3