**Ans 1**

public class BinarySearchExample {

public static int binarySearch(int[] arr, int target) {

int left = 0;

int right = arr.length - 1;

while (left <= right) {

int mid = left + (right - left) / 2; // To avoid integer overflow

if (arr[mid] == target) {

return mid; // Found target

}

if (arr[mid] < target) {

left = mid + 1;

}

else {

right = mid - 1;

}

}

return -1;

}

public static void main(String[] args) {

int[] arr = {2, 4, 6, 8, 10, 12, 14, 16, 18};

int target = 12;

int result = binarySearch(arr, target);

if (result == -1) {

System.out.println("Element not found in the array.");

} else { System.out.println("Element found at index: " + result);

}

}

}