Q.1) Accept 10 number in an array. Display all even number at the beginning and all Odd at the end. Use only one loop.

```
package logic;

import java.util.*;

public class EvenOdd {

public static void main(String[] args) {
Scanner sc = new Scanner(System.in);
int[] arr = new int[10];

System.out.println("Enter 10 numbers:");
for (int i = 0; i < 10; i++) {
arr[i] = sc.nextInt();
}

int j = 0;
for (int i = 0; i < arr.length; i++) {
if (arr[i] % 2 == 0) {
int temp = arr[i];
arr[i] = arr[j];
arr[j] = temp;
j++;
}
}
System.out.println("Evens first & Odds last: " + Arrays.toString(arr));
sc.close();
}
}
```

Q.2) Accept 5 number in an array and sort it. Accept a number from user and check if it is there in an array or not use binary search.

```
package logic;

import java.util.*;

public class BinarySearch {

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;

if (arr[mid] == target) {
return mid;
}

if (arr[mid] < target) {
left = mid + 1;
} else {
```

```
right = mid - 1;
}
}
return -1;
}

public static void main(String[] args) {
Scanner sc = new Scanner(System.in);
int[] arr = new int[5];

System.out.println("Enter 5 numbers:");
for (int i = 0; i < 5; i++) {
arr[i] = sc.nextInt();
}

Arrays.sort(arr);
System.out.println("Sorted Array: " + Arrays.toString(arr));

System.out.print("Enter num to search: ");
int target = sc.nextInt();

int result = binarySearch(arr, target);

if (result >= 0) {
System.out.println("Num found at index: " + result);
} else {
System.out.println("Num not found.");
}
sc.close();
}
}
```