```java
//Linear Search

public class LinearSearch {

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

        for (int i = 0; i < arr.length; i++) {

            if (arr[i] == target) {

                return i;

            }

        }

        return -1;

    }


    public static void main(String[] args) {

        int[] arr = {10, 23, 45, 60, 12, 5};

        int target = 45;

        int result = linearSearch(arr, target);

        if (result != -1) {

            System.out.println("Element found at index " + result);

        } else {

            System.out.println("Element not found");

        }

    }

}
```

Output:

Element found at index 2

```java
//Binary Search

public class BinarySearch {

    public static int binarySearch(int[] array, int key) {

        int l = 0;

        int u = array.length - 1;

        while (l <= u) {

            int mid = (l + u) / 2;

            if (array[mid] == key) {

                return mid;

            } else if (array[mid] < key) {

                l = mid + 1;

            } else {

                u = mid - 1;

            }

        }

        return -1;

    }


    public static void main(String[] args) {

        int[] array = {-11, 4, 6, 9, 33, 45};

        int key = 45;

        int result = binarySearch(array, key);

        if (result != -1) {

            System.out.println("Found at index " + result);

        } else {
```

```java
            System.out.println("Not Found");

        }

    }

}
```

Output:

Found at index 5

```java
//Bubble Sort

public class sort {

    public static void main(String[] args) {

        int[] arr = {5, 4, 3, 2, 1};

        int n = arr.length;

        int temp;

        int swapCount = 0;

        for (int i = 0; i < n - 1; i++) {

            for (int j = 0; j < n - i - 1; j++) {

                if (arr[j] > arr[j + 1]) {

                    temp = arr[j];

                    arr[j] = arr[j + 1];

                    arr[j + 1] = temp;

                    swapCount++;

                }

            }
```

```
        }

        System.out.print("Array in ascending order: ");

        for (int i = 0; i < n; i++) {

            System.out.print(arr[i] + " ");

        }

        System.out.println("\nSwapcount: " + swapCount);

    }

}
```

Output:

Array in ascending order: 1 2 3 4 5

Swapcount: 10

//Selection Sort

```
public class SelectionSort {

    public static void main(String[] args) {

        int[] arr = {20, 12, 10, 15, 2};

        int n = arr.length;

        int temp;

        int swapCount = 0;

        for (int i = 0; i < n - 1; i++) {

            int min = i;

            for (int j = i + 1; j < n; j++) {
```

```java
            if (arr[j] < arr[min]) {

                min = j;

            }

        }


        if (min != i) {

            temp = arr[i];

            arr[i] = arr[min];

            arr[min] = temp;

            swapCount++;

        }

    }

    System.out.println("Sorted array in ascending order:");

    for (int i = 0; i < n; i++) {

        System.out.print(arr[i] + " ");

    }

    System.out.println("\nSwapcount: " + swapCount);

  }


  }

}
```

Output:

Sorted array in ascending order:

2 10 12 15 20

Swapcount: 4