

1. Write a program for Bubble Sort

Ans:

```
package p4;

import java.util.Scanner;

public class BubbleSort {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter size of array: ");
        int n = sc.nextInt();
        int[] arr = new int[n];

        System.out.println("Enter elements:");
        for (int i = 0; i < n; i++) arr[i] = sc.nextInt();

        for (int i = 0; i < n - 1; i++)
            for (int j = 0; j < n - i - 1; j++)
                if (arr[j] > arr[j + 1]) {
                    int temp = arr[j]; arr[j] = arr[j + 1]; arr[j + 1] = temp;
                }

        System.out.println("Sorted array:");
        for (int i : arr) System.out.print(i + " ");
    }
}
```

2. Write a program for Selection Sort

ANS: **package** p7;

```
import java.util.Scanner;
```

```

public class SelectionSort {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter size of array: ");
        int n = sc.nextInt();
        int[] arr = new int[n];

        System.out.println("Enter elements:");
        for (int i = 0; i < n; i++) arr[i] = sc.nextInt();

        for (int i = 0; i < n - 1; i++) {
            int min = i;
            for (int j = i + 1; j < n; j++)
                if (arr[j] < arr[min]) min = j;

            int temp = arr[min]; arr[min] = arr[i]; arr[i] = temp;
        }

        System.out.println("Sorted array:");
        for (int i : arr) System.out.print(i + " ");
    }
}

```

3. Write a program Insertion Sort

ANS:

```

package basics;

import java.util.Scanner;

public class InsertionSort {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

```

```
System.out.print("Enter size of array: ");  
int n = sc.nextInt();  
int[] arr = new int[n];  
  
System.out.println("Enter elements:");  
for (int i = 0; i < n; i++) arr[i] = sc.nextInt();
```

```
for (int i = 1; i < n; i++) {  
    int key = arr[i];  
    int j = i - 1;  
    while (j >= 0 && arr[j] > key) {  
        arr[j + 1] = arr[j];  
        j--;  
    }  
    arr[j + 1] = key;  
}
```

```
System.out.println("Sorted array:");  
for (int i : arr) System.out.print(i + " ");
```

```
}
```

```
}
```