6.Writing a program in Java implementing the insertion sort algorithm

```
package OnlinePractice4;

class InsertionSort {

	void sort(int arr[])

	{

		int n = arr.length;

		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 = j - 1;

			}

			arr[j + 1] = key;

		}

	}

	static void printArray(int arr[])

	{

		int n = arr.length;

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

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


		System.out.println();

	}

	public static void main(String args[])

	{

		int arr[] = { 12, 111, 1, 5, 6 };
```

```
            System.out.println("Before Selection Sort");
            for(int i =0 ; i<arr.length ;++i) {
                  System.out.print(arr[i]+" ");
            }
            System.out.println();
            InsertionSort ob = new InsertionSort();
            ob.sort(arr);
            System.out.println("After Selection Sort");
            printArray(arr);
      }
}
```

output-

```
Before Selection Sort
12 111 1 5 6
After Selection Sort
1 5 6 12 111
```