

# LAB ASSIGNMENT – 2

## WAP FOR INSERTION SORT

### INSERTION SORT CODE:

```
package rec_Program;

import java.util.*;

public class InsertionSort {

    public static void insertionSort(int[] arr)
    {
        for (int i = 1; i < arr.length; i++)
        {
            int value = arr[i];
            int j = i;

            while (j > 0 && arr[j - 1] > value)
            {
                arr[j] = arr[j - 1];
                j--;
            }

            arr[j] = value;
        }
    }

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        int a, l, array[];
        Scanner s = new Scanner(System.in);
        System.out.println("enter array length: ");
        l = s.nextInt();
        array = new int[l];
        System.out.println("enter " + l + " elements");
        for(a = 0; a < l; a++)
        {
            array[a] = s.nextInt();
        }
    }
}
```

```

        insertionSort(array);
        System.out.println("Sorted Array");
        System.out.println(Arrays.toString(array));
    }
}

```

## INSERTION SORT CODE OUTPUT:

The screenshot shows the Eclipse IDE with the following components:

- Package Explorer:** Shows the project structure with packages like `rec_Program` and `rec_Program`.
- Editor:** Displays the `InsertionSort.java` file. The code includes a `while` loop for the insertion sort algorithm and a `main` method that takes user input for array length and elements.
- Console:** Shows the output of the program:
 

```

enter array length:
5
enter 5 elements
56
78
23
45
9
Sorted Array
[9, 23, 45, 56, 78]
      
```
- Problems View:** Shows 0 errors and 5 warnings.