Phase-1 Practice Project: Assisted Practice

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

Source code:

```java
import java.util.Scanner;
public class InsertionSort {

	public static void sort(int arr[]) {
		int n=arr.length;
		int i,j,temp;
		for(i=1;i<n;i++)
		{
			j=i;
			temp=arr[i];
			while(j>0 && temp<arr[j-1])
			{
				arr[j]=arr[j-1];
				j=j-1;
			}
			arr[j]=temp;
		}
	}
	public static void main(String[] args) {
		try (Scanner scan = new Scanner(System.in)) {
			System.out.println("Insertion Sort Test\n");
			int n,i;
			System.out.println("Enter the number of integer elements");
			n=scan.nextInt();
			int arr[]=new int[n];
			System.out.println("\nEnter" + n + "integer element");
			for(i=0;i<n;i++)
				arr[i]=scan.nextInt();
			sort(arr);
			System.out.println("\nElements after sorting");
			for(i=0;i<n;i++)
				System.out.print(arr[i]+" ");
		}
		System.out.println();
	}
}
```

Output:

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LinearSearc... BinarySearc... ExponentialS... SelectionSo... BubbleSort.java InsertionSo...

Outline
InsertionSort
sort(int[]) : void
main(String[]) : void

```
22        try (Scanner scan = new Scanner(System.in)) {
23            System out.println("Insertion Sort Test\n");
```

Problems Javadoc Declaration Console

<terminated> InsertionSort [Java Application] C:\Users\Varshitha B S\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.7.v20230425-1502\jre\bin\javaw.exe (18 May 2023, 13:32:27 – 13:32:44)

```
Insertion Sort Test

Enter the number of integer elements
7

Enter7integer element
1 4 23 67 44 8 21

Elements after sorting
1 4 8 21 23 44 67
```

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