| S.No: 4 | Exp. Name: ***Program to Sort elements using Insertion Sort*** | Date:2023-11-08 |
|---|---|---|



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## Aim:

Write a class **InsertionSorting** with a **public** method insertionSort. The method receives one parameter array of int type. Write a code to sort the array elements using the insertion sort technique.

For example:

```
Cmd Args : 10 23 15 8 5
5
8
10
15
23
```

**Note:**

- Make sure to use the **println()** method and not the **print()** method.
- Please don't change the package name.

## Source Code:

q11040/InsertionSorting.java

```
package q11040;
class InsertionSorting{
   void insertionSort(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;
         }
      for(int i=0;i<n;i++)
         {
            System.out.println(arr[i]);
         }
   }
}
```

q11040/InsertionSortingMain.java

```
package q11040;
public class InsertionSortingMain{
      public static void main(String[] args) {
         int[] array = new int[args.length];
         for (int i = 0; i < args.length; i++)
```

```
        {
          array[i] = Integer.parseInt(args[i]);
        }
        InsertionSorting inSorting = new InsertionSorting();
        inSorting.insertionSort(array);
    }
}
```

## Execution Results - All test cases have succeeded!

| Test Case - 1 |
|---|
| User Output |
| 1 |
| 3 |
| 4 |
| 5 |
| 6 |

| Test Case - 2 |
|---|
| User Output |
| 1 |
| 2 |
| 3 |
| 4 |

| Test Case - 3 |
|---|
| User Output |
| 5 |
| 8 |
| 10 |
| 15 |
| 23 |


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