



**SCTR's PUNE INSTITUTE OF COMPUTER TECHNOLOGY PUNE - 411043**

**Department of Electronics & Telecommunication Engineering (E&TE)**

**ASSESSMENT YEAR: 2023-2024**

**CLASS: TE 8**

**BATCH:- L8**

**SUBJECT: Fundamental of JAVA Programming**

**Assignment No: 5**

**Roll No: 32425**

**Date: 21/08/2023**

**Programmer Name: Tanmay Karale**

**Batch: L8**

**Problem Statement:**

Create and sort array for: i) List of integers ii) List of names.

**Note: copy code and program output for all case here**

Code :

1. Using built-in functions

```
import java.util.*;
public class SortingExp {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        // List of integers
        System.out.print("Enter the number of integers: ");
        int numIntegers = scanner.nextInt();
        int[] integerArray = new int[numIntegers];
        System.out.println("Enter the integers:");
        for (int i = 0; i < numIntegers; i++) {
            integerArray[i] = scanner.nextInt();
        }
        // Sorting integers
        Arrays.sort(integerArray);
        System.out.println("Sorted integers:");
        for (int num : integerArray) {
            System.out.print(num + " ");
        }
        System.out.println();
        scanner.nextLine();
        // List of names
        System.out.print("Enter the number of names: ");
        int numNames = scanner.nextInt();
        scanner.nextLine();
        String[] nameArray = new String[numNames];

        System.out.println("Enter the names:");
        for (int i = 0; i < numNames; i++) {
            nameArray[i] = scanner.nextLine();
        }
    }
}
```



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```
// Sorting names
Arrays.sort(nameArray);
System.out.println("Sorted names:");
for (String name : nameArray) {
    System.out.println(name);
}
scanner.close();
}
```

Output :

```
"C:\Program Files\Amazon Corretto\jdk17.0.7_7\bin\java.exe" "-javaagent:
Enter the number of integers: 8
Enter the integers:
1
9
6
4
3
4
3
7
Sorted integers:
1 3 3 4 4 6 7 9
Enter the number of names: 4
Enter the names:
tanmay
tanvi
ragnar
ubbe
Sorted names:
ragnar
tanmay
tanvi
ubbe

Process finished with exit code 0
```



2. without using built-in functions

Code :

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

```
public class SortingExp {  
    public static void main(String[] args) {  
        Scanner scanner = new Scanner(System.in);  
  
        // List of integers  
        System.out.print("Enter the number of integers: ");  
        int numIntegers = scanner.nextInt();  
        int[] integerArray = new int[numIntegers];  
  
        System.out.println("Enter the integers:");  
        for (int i = 0; i < numIntegers; i++) {  
            integerArray[i] = scanner.nextInt();  
        }  
  
        // Sorting integers  
        manualSort(integerArray);  
        System.out.println("Sorted integers:");  
        for (int num : integerArray) {  
            System.out.print(num + " ");  
        }  
        System.out.println();  
  
        // Clear the newline left by nextInt  
        scanner.nextLine();  
  
        // List of names  
        System.out.print("Enter the number of names: ");  
        int numNames = scanner.nextInt();  
        scanner.nextLine(); // Consume the newline left by nextInt  
        String[] nameArray = new String[numNames];  
  
        System.out.println("Enter the names:");  
        for (int i = 0; i < numNames; i++) {  
            nameArray[i] = scanner.nextLine();  
        }  
    }  
}
```



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```
}

// Sorting names
manualSort(nameArray);
System.out.println("Sorted names:");
for (String name : nameArray) {
    System.out.println(name);
}

scanner.close();
}

// Manual sorting for integers (bubble sort)
public static void manualSort(int[] array) {
    int n = array.length;
    for (int i = 0; i < n - 1; i++) {
        for (int j = 0; j < n - i - 1; j++) {
            if (array[j] > array[j + 1]) {
                int temp = array[j];
                array[j] = array[j + 1];
                array[j + 1] = temp;
            }
        }
    }
}

// Manual sorting for strings (bubble sort)
public static void manualSort(String[] array) {
    int n = array.length;
    for (int i = 0; i < n - 1; i++) {
        for (int j = 0; j < n - i - 1; j++) {
            if (array[j].compareTo(array[j + 1]) > 0) {
                String temp = array[j];
                array[j] = array[j + 1];
                array[j + 1] = temp;
            }
        }
    }
}
```



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}

Output:

```
"C:\Program Files\Amazon Corretto\jdk17.0.7_7\bin\java.exe" "-javaagent
Enter the number of integers: 5
Enter the integers:
1 8 9 34 2
Sorted integers:
1 2 8 9 34
Enter the number of names: 5
Enter the names:
ragnar
ubbe
bjorn
ivar
torvi
Sorted names:
bjorn
ivar
ragnar
torvi
ubbe

Process finished with exit code 0
```