

Course Outcome 2 (CO2)

CO2: Implement arrays and strings.

Syllabus: Arrays and Strings

CO2.1 Program to Sort strings //SortName.java

```
import java. util.Scanner;
import java. util.Arrays;
public class SortName
{
    public static void main(String[] args)
    {
        int i, j;
        String temp;
        Scanner sc = new Scanner (System.in);
        System.out.println ("Enter the number of strings");
        int num=sc.nextInt( );
        sc.nextLine ( ); // Consume newline left-over
        String word [ ] = new String [num];
        System.out.println ("Enter Strings");
        for (i=0;i<num; i++)
            word [i] =sc.nextLine();
        for (i=0;i<num-1;i++)
            for (j=i+1;j<num; j++)
                if (word[i].compareTo (word[j] ) > 0 )
                {
                    temp = word[i];
                    word[i]=word[j];
                    word[j]=temp;
                }
        System.out.println("Sorted Strings are:");
        System.out.println(Arrays.toString(word));
    }
}

/* E:\S2 JAVA LAB 2024\JavaRec>javac SortName.java
E:\S2 JAVA LAB 2024\JavaRec>java SortName
Enter the number of strings
4
Enter Strings
ass
aaa
fff
qwq
Sorted Strings are
[aaa, ass, fff, qwq]    */
```

2. CO2.2a. Search an element in an array. //Search.java

```
import java.util.Scanner;
public class Search
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the size of the array: ");
        int size = sc.nextInt( );
        int array [ ] = new int[size]; // Create an array of the specified size
        System.out.println("Enter the elements of the array:");
        for (int i = 0; i < size; i++)
        {
            System.out.print("Enter element " + (i + 1) + ": ");
            array[i] = sc.nextInt();
        }
        System.out.print("Enter the element to search: ");
        int searchElement = sc.nextInt();
        // Perform the search
        boolean found = false;
        for (int i = 0; i < size; i++)
        {
            if (array[i] == searchElement)
            {
                found = true;
                System.out.println("Element found at index " + i);
                break;
            }
        }
        if (!found)
            System.out.println("Element not found in the array.");
    }
}

/*E:\S2 JAVA LAB 2024\JavaRec>javac Search.java
E:\S2 JAVA LAB 2024\JavaRec>java Search
Enter the size of the array: 5
Enter the elements of the array:
Enter element 1: 12
Enter element 2: 3
Enter element 3: 45
Enter element 4: 2
Enter element 5: 6
Enter the element to search: 3
Element found at index 1
E:\S2 JAVA LAB 2024\JavaRec>java Search
Enter the size of the array: 5
Enter the elements of the array:
Enter element 1: 12
Enter element 2: 3
Enter element 3: 45
```

Enter element 4: 2
Enter element 5: 6
Enter the element to search: 10
Element not found in the array. */

//CO2.2b. Search a word in an array. WordSearch.java

```
import java.util.Scanner;
public class WordSearch
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the number of words in the array: ");
        int size = sc.nextInt();
        String[] words = new String[size]; // Create an array to store the words
        System.out.println("Enter the words:");
        for (int i = 0; i < size; i++)
            words[i] = sc.next();
        System.out.print("Enter a word to search: ");
        String searchWord = sc.next();
        boolean found = false; // Flag to indicate if the word is found
        // Iterate through the array to search for the word
        for (String word : words) //for-each loop
        {
            if (word.equals(searchWord))
            {
                found = true;
                break;
            }
        }
        if (found)
            System.out.println("The word '" + searchWord + "' is found in the
array.");
        else
            System.out.println("The word '" + searchWord + "' is not found.");
    }
}
```

/*

E:\S2 JAVA LAB 2024\JavaRec>javac WordSearch.java

E:\S2 JAVA LAB 2024\JavaRec>java WordSearch

Enter the number of words in the array: 4

Enter the words:

sdff

qwwe

aaa

abc

Enter a word to search: aaa

The word 'aaa' is found in the array. */

CO2.3.Perform string manipulations//StringFunctions.java

```
import java.util.Scanner;

public class StringFunctions
{
    public static void main(String[] args)
    {
        System.out.println("Enter The String");
        Scanner sc = new Scanner(System.in);
        String str1 = sc.nextLine();
        System.out.println("Length of String = "+str1.length());
        System.out.println("Character at First position = "+str1.charAt(1));
        System.out.println("String ends with e : "+str1.endsWith("e"));
        System.out.println("LOWERCASE : "+str1.toLowerCase());
        System.out.println("UPPERCASE : "+str1.toUpperCase());
        System.out.println("Character at 2nd & 4th position is "+ str1.charAt(1) +
            ","+str1.charAt(3));
        System.out.println("The sub string using start index only is "+
            str1.substring(5));
        System.out.println("The sub string using start index only is "+
            str1.substring(0,4));
    }
}
```

/*

E:\S2 JAVA LAB 2024\JavaRec>javac StringFunctions.java

E:\S2 JAVA LAB 2024\JavaRec>java StringFunctions

Enter The String

university

Length of String = 10

Character at First position = n

String ends with e : false

LOWERCASE : university

UPPERCASE : UNIVERSITY

Character at 2nd & 4th position is n,v

The sub string using start index only is rsity

The sub string using start index only is univ

CO2.4. Program to create a class for Employee having attributes eNo, eName eSalary. Read n employ information and Search for an employee given eNo, using the concept of Array of Objects.

```
import java.util.Scanner;
public class Employee
{
    int eNo;
    String eName;
    double eSalary;
    public void getdetails()
    {
        Scanner sc = new Scanner(System.in);
        System.out.print("Employee number : ");
        eNo=sc.nextInt();
        System.out.print("Name : ");
        sc.nextLine();
        eName=sc.nextLine();
        System.out.print("Salary : ");
        eSalary=sc.nextDouble();
    }
    void display()
    {
        System.out.println("Empolyee No : "+eNo);
        System.out.println("Name : "+eName);
        System.out.println("Salary Amount: "+eSalary+"\n");
    }
    public static void main(String[] args)
    {
        System.out.println("\nEnter the No. of Employee's");
        Scanner sc1 = new Scanner(System.in);
        int num = sc1.nextInt();
        System.out.println("Enter the Employee details");
        Employee arr[]=new Employee[num];
        for(int i =0;i<num;i++)
        {
            arr[i]=new Employee();
            arr[i].getdetails();

        }
        System.out.println("Informations of all the employees");
        for(int i=0;i<num;i++)
            arr[i].display();
        boolean state = false;
        System.out.println("Enter the Employee Number to get details of a
employee");
```

```

        int num2= sc1.nextInt();
        for(int i=0;i<num;i++)
        {
            if(arr[i].eNo==num2)
            {
                System.out.println("Employee details");
                arr[i].display();
            }
        }
    }
}

```

/*

E:\S2 JAVA LAB 2024\JavaRec>javac Employee.java

E:\S2 JAVA LAB 2024\JavaRec>java Employee

Enter the No. of Employee's

2

Enter the Employee details

Employee number : 1

Name : aaaa

Salary : 50000

Employee number : 2

Name : dddd

Salary : 70000

Informations of all the employees

Empolyee No : 1

Name : aaaa

Salary Amount: 50000.0

Empolyee No : 2

Name : dddd

Salary Amount: 70000.0

Enter the Employee Number to get details of a employee

2

Employee details

Empolyee No : 2

Name : dddd

Salary Amount: 70000.0 */