

## LAB CYCLE -2

### 1. Program to Sort strings

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

public class SortString {
    public static void main(String[] args) {

        System.out.println("Name: ASWATHY CHANDRAN");
        System.out.println("Reg. No: SJC22MCA-2016");
        System.out.println("Date: 28/03/2023");
        System.out.println("Course code: 20MCA132");
        System.out.println();

        Scanner input = new Scanner(System.in);

        // Ask the user for the number of strings to be sorted
        System.out.print("How many strings do you want to sort? ");
        int n = input.nextInt();
        input.nextLine(); // consume the newline character

        // Create an array of strings and fill it with user input
        String[] strings = new String[n];
        for (int i = 0; i < n; i++) {
            System.out.print("Enter string " + (i + 1) + ": ");
            strings[i] = input.nextLine();
        }

        // Sort the array of strings
        Arrays.sort(strings);

        // Print the sorted array
        System.out.println("Sorted Strings:");
        for (String string : strings) {
            System.out.println(string);
        }

        input.close();
    }
}
```

```
(base) sjcet@Z238-UL:~/Aswathy/JAVA$ javac sort.java
(base) sjcet@Z238-UL:~/Aswathy/JAVA$ java sort
Name: ASWATHY CHANDRAN
Reg. No: SJC22MCA-2016
Date: 28/03/2023
Course code: 20MCA132

Enter the number of words
2

Enter a Word
aswathy

Enter a Word
chandran
Sorted Strings using compareTo function =[aswathy, chandran]
[Ljava.lang.String;@677327b6
(base) sjcet@Z238-UL:~/Aswathy/JAVA$ |
```

## 2. Search an element in an array.

```
import java.util.Scanner;

public class ArraySearch {
    public static void main(String[] args) {

        System.out.println("Name:ASWATHY CHANDRAN");
        System.out.println("Reg. No: SJC22MCA-2016");
        System.out.println("Date: 28/03/2023");
        System.out.println("Course code: 20MCA132");
        System.out.println();

        int[] numbers = {2, 7, 4, 1, 8, 5, 9, 3, 6};
        Scanner input = new Scanner(System.in);

        // Ask the user for the number to search for
        System.out.print("Enter a number to search for: ");    int
        searchNumber = input.nextInt();
```

```
        boolean found = false;
        int index = -1;

        // Search for the number in the array
        for (int i = 0; i < numbers.length; i++) {
            if (numbers[i] == searchNumber) {
                found = true;
                index = i;
                break;
            }
        }

        // Print the result
        if (found) {
            System.out.println(searchNumber + " found at index " + index);
        } else {
            System.out.println(searchNumber + " not found in the array");
        }

        input.close();
    }
}
```

```
(base) sjcet@Z238-UL:~/Aswathy/JAVA$ javac ArraySearch.java
(base) sjcet@Z238-UL:~/Aswathy/JAVA$ java ArraySearch
Name: ASWATHY CHANDRAN
Reg. No: SJC22MCA-2016
Date: 28/03/2023
Course code: 20MCA132

Enter a number to search for: 2
2 found at index 0
(base) sjcet@Z238-UL:~/Aswathy/JAVA$ |
```

**3. Perform string manipulations**

```

import java.util.Scanner;

public class StringManipulation {
    public static void main(String[] args) {

        System.out.println("Name: ASWATHY CHANDRAN");
        System.out.println("Reg. No: SJC22MCA-2016");
        System.out.println("Date: 28/03/2023");
        System.out.println("Course code: 20MCA132");
        System.out.println();

        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String str = scanner.nextLine();

        // Find the length of the string
        int length = str.length();
        System.out.println("Length: " + length);

        // Convert the string to uppercase
        String uppercase = str.toUpperCase();
        System.out.println("Uppercase: " + uppercase);

        // Convert the string to lowercase
        String lowercase = str.toLowerCase();
        System.out.println("Lowercase: " + lowercase);

        // Replace a character in the string
        System.out.print("Enter a character to replace: ");
        char oldChar = scanner.next().charAt(0);
        System.out.print("Enter a character to replace it with: ");
        char newChar = scanner.next().charAt(0);    String
        replaced = str.replace(oldChar, newChar);
        System.out.println("Replaced: " + replaced);

        // Get a substring of the string
        System.out.print("Enter the start index for the substring: ");
        int startIndex = scanner.nextInt();
        System.out.print("Enter the end index for the substring: ");
        int endIndex = scanner.nextInt();
        String substring = str.substring(startIndex, endIndex);
        System.out.println("Substring: " + substring);
    }
}

```

```

        // Split the string into an array of substrings
        System.out.print("Enter a delimiter to split the string: ");
        String delimiter = scanner.next();
        String[] parts = str.split(delimiter);
        System.out.println("Parts:");    for
        (String part : parts) {
            System.out.println(part.trim());
        }

        scanner.close();
    }
}

```

```

(base) sjcet@Z238-UL:~/Aswathy/JAVA$ javac StringManipulation.java
(base) sjcet@Z238-UL:~/Aswathy/JAVA$ java StringManipulation
Name: ASWATHY CHANDRAN
Reg. No: SJC22MCA-2016
Date: 28/03/2023
Course code: 20MCA132

Enter a string: Aswathy Chandran
Length: 16
Uppercase: ASWATHY CHANDRAN
Lowercase: aswathy chandran
Enter a character to replace: s
Enter a character to replace it with: j
Replaced: Ajwathy Chandran
Enter the start index for the substring: 1
Enter the end index for the substring: 7
Substring: swathy
Enter a delimiter to split the string: h
Parts:
Aswat
y C
andran

```

**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 Employee(int eNo, String eName, double eSalary) {
        this.eNo = eNo;
        this.eName = eName;
        this.eSalary = eSalary;
    }

    public static void main(String[] args) {

        System.out.println("Name: ASWATHY CHANDRAN");
        System.out.println("Reg. No: SJC22MCA-2015");
        System.out.println("Date: 28/03/2023");
        System.out.println("Course code: 20MCA132");
        System.out.println();

        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the number of employees: ");
        int n = scanner.nextInt();

        Employee[] employees = new Employee[n];
        for (int i = 0; i < n; i++) {
            System.out.println("Enter details for employee " + (i+1) + ":");
            System.out.print("eNo: ");      int eNo = scanner.nextInt();
            System.out.print("eName: ");
            String eName = scanner.next();
            System.out.print("eSalary: ");   double
            eSalary = scanner.nextDouble();
            employees[i] = new Employee(eNo, eName, eSalary);
        }

        System.out.print("Enter the employee number to search: ");
        int searchNo = scanner.nextInt();    boolean found = false;
```

```

for (Employee employee : employees) {      if (employee.eNo
== searchNo) {
    System.out.println("Employee found: eNo=" + employee.eNo + ", eName=" +
employee.eName + ", eSalary=" + employee.eSalary);
    found = true;          break;
    }
}
if (!found) {
    System.out.println("Employee not found.");
}

scanner.close();
}
}

```

```

(base) sjcet@Z238-UL:~/Aswathy/JAVA$ javac Employee.java
(base) sjcet@Z238-UL:~/Aswathy/JAVA$ java Employee
Name: ASWATHY CHANDRAN
Reg. No: SJC22MCA-2016
Date: 28/03/2023
Course code: 20MCA132

Enter the number of employees: 2
Enter details for employee 1:
eNo: 1
eName: Ajesh
eSalary: 100000
Enter details for employee 2:
eNo: 2
eName: Aswathy
eSalary: 90000
Enter the employee number to search: 2
Employee found: eNo=2, eName=Aswathy, eSalary=90000.0
(base) sjcet@Z238-UL:~/Aswathy/JAVA$ |

```