Experiment 8

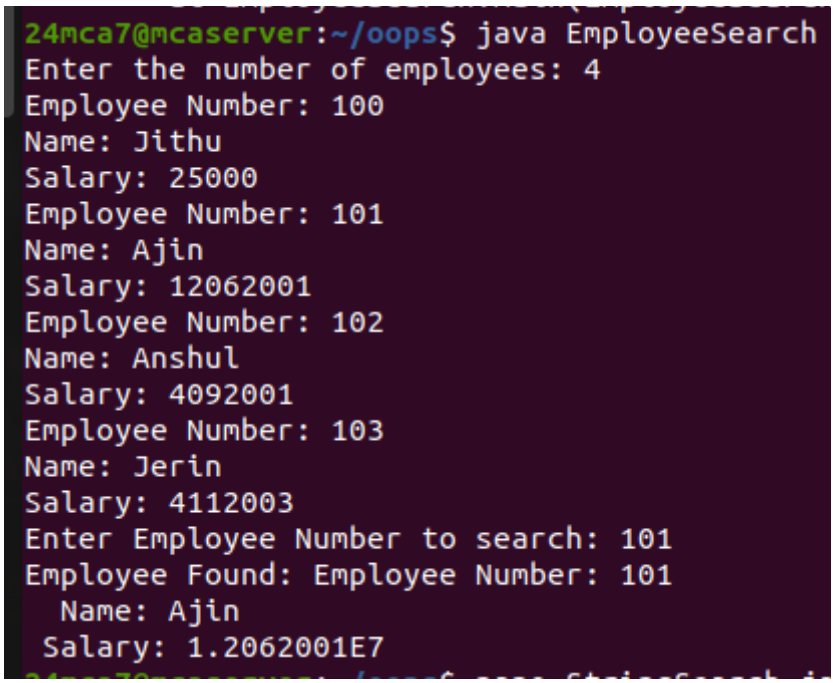
Aim: Write a Java program to store employee details including employee number, name, and salary, and search for an employee by employee number.

Source code

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

public class EmployeeSearch {
   private int empNumber;
   private String name;
   private double salary;

   public EmployeeSearch(int empNumber, String name, double salary) {
      this.empNumber = empNumber;
      this.name = name;
      this.salary = salary;
   }

   @Override
   public String toString() {
      return "Employee Number: " + empNumber + "\n  Name: " + name + "\n
Salary: " + salary;
   }

   public static void main(String[] args) {
      ArrayList<EmployeeSearch> employees = new ArrayList<>();
      Scanner scanner = new Scanner(System.in);

      System.out.print("Enter the number of employees: ");
      int numExperiment 9
String Search in an Array
Problem Statement
Write a Java program to store ‘n‘ strings in an array. Search for a given string. If
found,
print its index; otherwise, display ”String not foundEmployees =
scanner.nextInt();

      for (int i = 0; i < numEmployees; i++) {
         System.out.print("Employee Number: ");
         int empNumber = scanner.nextInt();
```

```
            scanner.nextLine(); // Consume newline
            System.out.print("Name: ");
            String name = scanner.nextLine();
            System.out.print("Salary: ");
            double salary = scanner.nextDouble();

            employees.add(new EmployeeSearch(empNumber, name, salary));
        }

        System.out.print("Enter Employee Number to search: ");
        int searchEmpNumber = scanner.nextInt();

        boolean found = false;
        for (EmployeeSearch emp : employees) {
            if (emp.empNumber == searchEmpNumber) {
                System.out.println("Employee Found: " + emp);
                found = true;
                break;
            }
        }

        if (!found) {
            System.out.println("Employee with number " + searchEmpNumber + "
not found.");
        }

        scanner.close();
    }
}
```

output



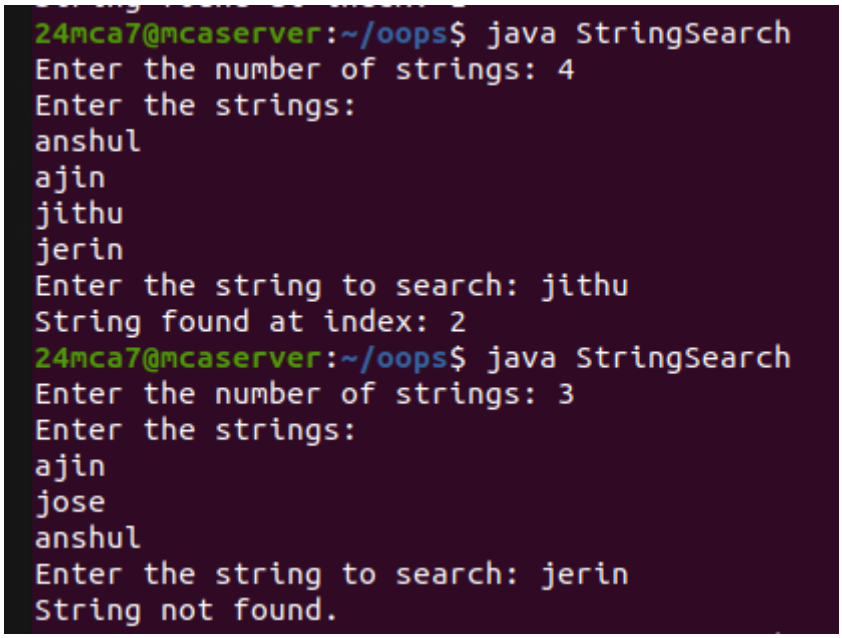
Experiment 9

Aim : Write a Java program to store ‘n‘ strings in an array. Search for a given string. If found, print its index; otherwise, display ”String not found

Source code

```
import java.util.Scanner;

public class StringSearch {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the number of strings: ");
        String[] strings = new String[scanner.nextInt()];
        scanner.nextLine(); // Consume newline

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

        System.out.print("Enter the string to search: ");
        String searchString = scanner.nextLine();

        for (int i = 0; i < strings.length; i++) {
            if (strings[i].equals(searchString)) {
                System.out.println("String found at index: " + i);
                scanner.close();
                return;
            }
        }

        System.out.println("String not found.");
      scanner.close();
    }
}
```

output



Experiment 10

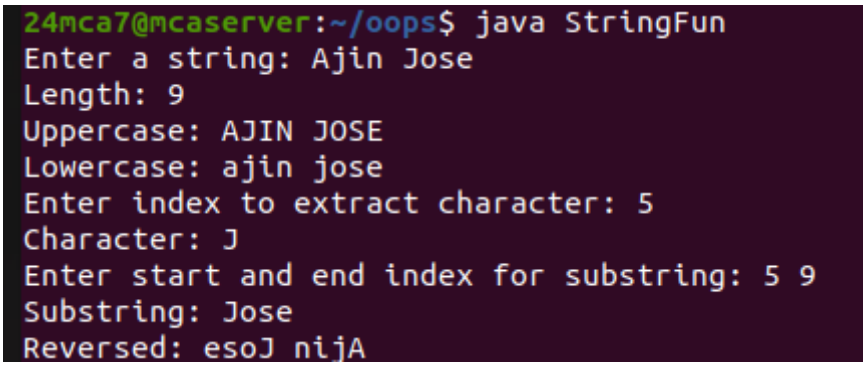
Aim: Write a Java program to perform various string manipulations, including finding the length, converting to uppercase and lowercase, extracting characters and substrings, and reversing the string.

Source code

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

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter a string: ");
        String input = scanner.nextLine();

        System.out.println("Length: " + input.length());
        System.out.println("Uppercase: " + input.toUpperCase());
        System.out.println("Lowercase: " + input.toLowerCase());
        System.out.print("Enter index to extract character: ");
        System.out.println("Character: " + input.charAt(scanner.nextInt()));
        scanner.nextLine();

        System.out.print("Enter start and end index for substring: ");
        int start = scanner.nextInt(), end = scanner.nextInt();
```

```
        System.out.println("Substring: " + input.substring(start, end));

        System.out.println("Reversed: " + new
StringBuilder(input).reverse());
        scanner.close();
    }
}
```

Output



Experiment 11

Aim: Write a Java program to implement hierarchical inheritance for a book management system. Define a base class ‘Publisher‘, a derived class ‘Book‘, and two subclasses ‘Literature‘ and ‘Fiction‘. Include methods to read and display book details and demonstrate the functionality using user input.

Source code

```
import java.util.Scanner;

class Publisher {
    String name;
    Publisher(String name) { this.name = name; }
    void display() { System.out.println("Publisher: " + name); }
}

class Book extends Publisher {
    String title, author;
    Book(String name, String title, String author) {
        super(name);
        this.title = title;
        this.author = author;
```

```
    }
    void display() {
        super.display();
        System.out.println("Title: " + title + "\nAuthor: " + author);
    }
}

class Literature extends Book {
    Literature(String name, String title, String author) { super(name, title,
author); }
}

class Fiction extends Book {
    Fiction(String name, String title, String author) { super(name, title,
author); }
}

public class BookManagement {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter Publisher: ");
        String publisher = sc.nextLine();

        System.out.print("Enter Title: ");
        String title = sc.nextLine();

        System.out.print("Enter Author: ");
        String author = sc.nextLine();

        System.out.print("Enter Category (Literature/Fiction): ");
        String category = sc.nextLine();

        Book book = category.equalsIgnoreCase("Literature") ? new
Literature(publisher, title, author) : new Fiction(publisher, title, author);

        System.out.println("\nBook Details:");
        book.display();
```

```
        sc.close();
    }
}
```

Output