EXPERIMENT NO : 8

DATE : 25-02-2025

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

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

class Employee {
    int empNumber;
    String empName;
    double empSalary;

    Employee(int empNumber, String empName, double empSalary) {
        this.empNumber = empNumber;
        this.empName = empName;
        this.empSalary = empSalary;
    }

    void displayEmployeeDetails() {
        System.out.println("Employee Number: " + empNumber);
        System.out.println("Employee Name: " + empName);
        System.out.println("Employee Salary: " + empSalary);
    }
}

public class EmployeeDetails {

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

        System.out.print("Enter the number of employees: ");
        int numberOfEmployees = scanner.nextInt();
        scanner.nextLine();

        for (int i = 0; i < numberOfEmployees; i++) {
            System.out.println("\nEnter details for employee " + (i + 1));

            System.out.print("Enter employee number: ");
            int empNumber = scanner.nextInt();
            scanner.nextLine();

            System.out.print("Enter employee name: ");
            String empName = scanner.nextLine();

            System.out.print("Enter employee salary: ");
            double empSalary = scanner.nextDouble();
```

```java
        scanner.nextLine();

        employeeList.add(new Employee(empNumber, empName, empSalary));
    }

    System.out.print("\nEnter employee number to search: ");
    int empNumberToSearch = scanner.nextInt();

    boolean found = false;
    for (Employee emp : employeeList) {
        if (emp.empNumber == empNumberToSearch) {
            emp.displayEmployeeDetails();
            found = true;
            break;
        }
    }

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

    scanner.close();
  }
}
```

OUTPUT

```
Enter the number of employees: 3

Enter details for employee 1
Enter employee number: 1
Enter employee name: sumathi
Enter employee salary: 5000

Enter details for employee 2
Enter employee number: 2
Enter employee name: sashi
Enter employee salary: 10000

Enter details for employee 3
Enter employee number: 3
Enter employee name: soman
Enter employee salary: 2000

Enter employee number to search: 2
Employee Number: 2
Employee Name: sashi
Employee Salary: 10000.0
```

EXPERIMENT NO : 9

DATE : 25-02-2025

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

```java
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 you want to store: ");
        int n = scanner.nextInt();
        scanner.nextLine();

        String[] strings = new String[n];

        System.out.println("Enter the strings:");
        for (int i = 0; i < n; i++) {
            System.out.print("String " + (i + 1) + ": ");
            strings[i] = scanner.nextLine();
        }

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

        boolean found = false;
        for (int i = 0; i < n; i++) {
            if (strings[i].equals(searchString)) {
                System.out.println("String found at index: " + i);
                found = true;
                break;
            }
        }

        if (!found) {
            System.out.println("String not found.");
        }

        scanner.close();
    }
}
```

OUTPUT

```
Enter the number of strings you want to store: 4
Enter the strings:
String 1: shine
String 2: minna
String 3: anjali
String 4: anamika

Enter the string to search: 4
String not found.
24mca48@mcaserver:~/java$ java StringSearch
Enter the number of strings you want to store: 3
Enter the strings:
String 1: shane
String 2: saho
String 3: minna

Enter the string to search: minna
String found at index: 2
```

EXPERIMENT NO : 10

DATE : 25-02-2025

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

```java
import java.util.Scanner;

public class StringManipulations {

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

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

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

        String upperCaseString = inputString.toUpperCase();
        System.out.println("String in uppercase: " + upperCaseString);

        String lowerCaseString = inputString.toLowerCase();
        System.out.println("String in lowercase: " + lowerCaseString);

        char firstChar = inputString.charAt(0);
        System.out.println("First character: " + firstChar);

        String substring = inputString.substring(2, 5);
        System.out.println("Substring from index 2 to 5: " + substring);

        String reversedString = new StringBuilder(inputString).reverse().toString();
        System.out.println("Reversed string: " + reversedString);

        scanner.close();
    }
}
```
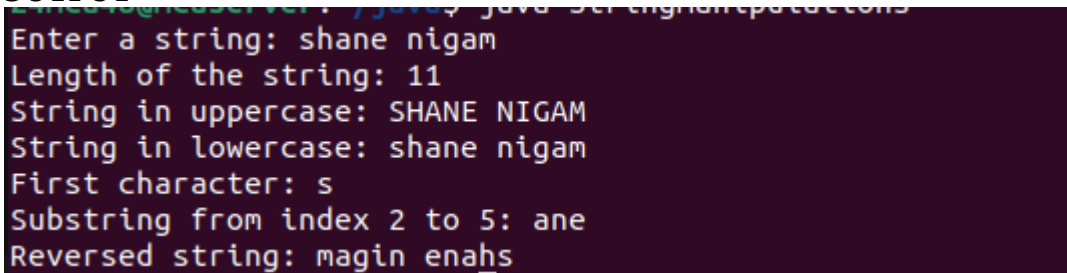
OUTPUT

```
Enter a string: shane nigam
Length of the string: 11
String in uppercase: SHANE NIGAM
String in lowercase: shane nigam
First character: s
Substring from index 2 to 5: ane
Reversed string: magin enahs
```

EXPERIMENT NO : 11

DATE : 25-02-2025

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

```java
import java.util.Scanner;

class Publisher {
    String publisherName;
    String publisherAddress;

    void readPublisherDetails(Scanner scanner) {
        System.out.print("Enter publisher name: ");
        publisherName = scanner.nextLine();
        System.out.print("Enter publisher address: ");
        publisherAddress = scanner.nextLine();
    }

    void displayPublisherDetails() {
        System.out.println("Publisher Name: " + publisherName);
        System.out.println("Publisher Address: " + publisherAddress);
    }
}

class Book extends Publisher {
    String bookTitle;
    String author;
    double price;

    void readBookDetails(Scanner scanner) {
        System.out.print("Enter book title: ");
        bookTitle = scanner.nextLine();
        System.out.print("Enter author name: ");
        author = scanner.nextLine();
        System.out.print("Enter book price: ");
        price = scanner.nextDouble();
        scanner.nextLine();
    }

    void displayBookDetails() {
        System.out.println("Book Title: " + bookTitle);
        System.out.println("Author: " + author);
        System.out.println("Price: " + price);
    }
}
```

```java
class Literature extends Book {
    String genre;

    void readLiteratureDetails(Scanner scanner) {
        readBookDetails(scanner);
        System.out.print("Enter genre of literature: ");
        genre = scanner.nextLine();
    }

    void displayLiteratureDetails() {
        displayBookDetails();
        System.out.println("Genre: " + genre);
        displayPublisherDetails();
    }
}

class Fiction extends Book {
    String subGenre;

    void readFictionDetails(Scanner scanner) {
        readBookDetails(scanner);
        System.out.print("Enter fiction subgenre: ");
        subGenre = scanner.nextLine();
    }

    void displayFictionDetails() {
        displayBookDetails();
        System.out.println("Subgenre: " + subGenre);
        displayPublisherDetails();
    }
}

public class BookManagementSystem {

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

        Literature literatureBook = new Literature();
        Fiction fictionBook = new Fiction();

        System.out.println("\nEnter details for Literature book:");
        literatureBook.readPublisherDetails(scanner);
        literatureBook.readLiteratureDetails(scanner);
        System.out.println("\nLiterature Book Details:");
        literatureBook.displayLiteratureDetails();

        System.out.println("\nEnter details for Fiction book:");
        fictionBook.readPublisherDetails(scanner);
        fictionBook.readFictionDetails(scanner);
        System.out.println("\nFiction Book Details:");
        fictionBook.displayFictionDetails();
```

```
        scanner.close();
    }
}
```

OUTPUT

```
Enter details for Literature book:
Enter publisher name: minnus
Enter publisher address: thrissur
Enter book title: amazer
Enter author name: shine
Enter book price: 4999
Enter genre of literature: drama

Literature Book Details:
Book Title: amazer
Author: shine
Price: 4999.0
Genre: drama
Publisher Name: minnus
Publisher Address: thrissur

Enter details for Fiction book:
Enter publisher name: anjali
Enter publisher address: kottayam
Enter book title: dream world
Enter author name: savio
Enter book price: 3599
Enter fiction subgenre: sci-fi,romance

Fiction Book Details:
Book Title: dream world
Author: savio
Price: 3599.0
Subgenre: sci-fi,romance
Publisher Name: anjali
Publisher Address: kottayam
```