import java.util.Optional;

class Address {

private String city;

private String state;

public Address(String city, String state) {

this.city = city;

this.state = state;

}

public String getCity() {

return city;

}

public String getState() {

return state;

}

}

class Employee {

private String name;

private String primaryPhone;

private Optional<String> alternatePhone; // Optional for alternate phone number

private Optional<Address> address; // Optional for address

public Employee(String name, String primaryPhone, String alternatePhone, Address address) {

this.name = name;

this.primaryPhone = primaryPhone;

this.alternatePhone = Optional.ofNullable(alternatePhone); // Might be null

this.address = Optional.ofNullable(address); // Might be null

}

public Optional<String>

getAlternatePhone() {

return alternatePhone;

}

public Optional<Address> getAddress() {

return address;

}

}

public class Main {

public static void main(String[] args) {

// Create an employee with no alternate phone and no address

Employee employee1 = new Employee("John Doe", "1234567890", null, null);

// Create an employee with an alternate phone and address

Address address2 = new Address("New York", "NY");

Employee employee2 = new Employee("Jane Smith", "9876543210", "5551234567", address2);

// Check if employee1 has an alternate phone number

employee1.getAlternatePhone().ifPresent(phone ->

System.out.println("Employee1 has an alternate phone: " + phone)

);

// Check if employee2 has an alternate phone number

employee2.getAlternatePhone().ifPresent(phone ->

System.out.println("Employee2 has an alternate phone: " + phone)

);

// Using map() to retrieve the employee's city (address might be null)

String city1 = employee1.getAddress()

.map(Address::getCity)

.orElse("Address not available");

System.out.println("Employee1 city: " + city1);

// Using flatMap() to retrieve the employee's state (address might be null)

String state2 = employee2.getAddress()

.flatMap(address -> Optional.ofNullable(address.getState()))

.orElse("State not available");

System.out.println("Employee2 state: " + state2);

}

}