ALL JAVA FILE CODES (ALL CLASSES):

1.Subscriber:

public class Subscriber {

private int subscriberId;

private String phoneNumber;

private String name;

private String address;

private double balance;

// Constructors

public Subscriber() {}

public Subscriber(int subscriberId, String phoneNumber, String name, String address, double balance) {

this.subscriberId = subscriberId;

this.phoneNumber = phoneNumber;

this.name = name;

this.address = address;

this.balance = balance;

}

// Getters

public int getSubscriberId() {

return subscriberId;

}

public String getPhoneNumber() {

return phoneNumber;

}

public String getName() {

return name;

}

public String getAddress() {

return address;

}

public double getBalance() {

return balance;

}

// Setters

public void setSubscriberId(int subscriberId) {

this.subscriberId = subscriberId;

}

public void setPhoneNumber(String phoneNumber) {

this.phoneNumber = phoneNumber;

}

public void setName(String name) {

this.name = name;

}

public void setAddress(String address) {

this.address = address;

}

public void setBalance(double balance) {

this.balance = balance;

}

// Display method

public void displayDetails() {

System.out.println("Subscriber ID: " + subscriberId);

System.out.println("Phone Number: " + phoneNumber);

System.out.println("Name: " + name);

System.out.println("Address: " + address);

System.out.println("Balance: $" + balance);

System.out.println();

}

// Method to recharge balance

public void rechargeBalance(double amount) {

balance += amount;

System.out.println("Balance recharged successfully. Current balance: $" + balance);

}

// Method to deduct balance for call

public void makeCall(double callDuration) {

double callCost = callDuration \* 0.1; // Assuming call cost per minute is $0.1

if (balance >= callCost) {

balance -= callCost;

System.out.println("Call made successfully. Call cost: $" + callCost + ", Remaining balance: $" + balance);

} else {

System.out.println("Insufficient balance to make call.");

}

}

}

2.invoice:

import java.util.ArrayList;

import java.util.Date;

import java.util.List;

public class Invoice {

private int invoiceId;

private int subscriberId;

private Date startDate;

private Date endDate;

private double totalAmount;

private List<CallDetailRecord> callDetailRecords;

// Constructors

public Invoice() {

callDetailRecords = new ArrayList<>();

}

public Invoice(int invoiceId, int subscriberId, Date startDate, Date endDate) {

this.invoiceId = invoiceId;

this.subscriberId = subscriberId;

this.startDate = startDate;

this.endDate = endDate;

this.totalAmount = 0.0;

callDetailRecords = new ArrayList<>();

}

// Getters

public int getInvoiceId() {

return invoiceId;

}

public int getSubscriberId() {

return subscriberId;

}

public Date getStartDate() {

return startDate;

}

public Date getEndDate() {

return endDate;

}

public double getTotalAmount() {

return totalAmount;

}

public List<CallDetailRecord> getCallDetailRecords() {

return callDetailRecords;

}

// Setters

public void setInvoiceId(int invoiceId) {

this.invoiceId = invoiceId;

}

public void setSubscriberId(int subscriberId) {

this.subscriberId = subscriberId;

}

public void setStartDate(Date startDate) {

this.startDate = startDate;

}

public void setEndDate(Date endDate) {

this.endDate = endDate;

}

public void setTotalAmount(double totalAmount) {

this.totalAmount = totalAmount;

}

// Add a CallDetailRecord to the invoice

public void addCallDetailRecord(CallDetailRecord cdr) {

callDetailRecords.add(cdr);

}

// Display method

public void display() {

System.out.println("Invoice Details:");

System.out.println("Invoice ID: " + invoiceId);

System.out.println("Subscriber ID: " + subscriberId);

System.out.println("Start Date: " + startDate);

System.out.println("End Date: " + endDate);

System.out.println("Total Amount: $" + totalAmount);

System.out.println("Call Detail Records:");

for (CallDetailRecord cdr : callDetailRecords) {

cdr.display();

}

}

}

3.Device:

public class Device {

private int deviceId;

private String serialNumber;

private String model;

private String manufacturer;

// Constructors

public Device() {}

public Device(int deviceId, String serialNumber, String model, String manufacturer) {

this.deviceId = deviceId;

this.serialNumber = serialNumber;

this.model = model;

this.manufacturer = manufacturer;

}

// Getters

public int getDeviceId() {

return deviceId;

}

public String getSerialNumber() {

return serialNumber;

}

public String getModel() {

return model;

}

public String getManufacturer() {

return manufacturer;

}

// Setters

public void setDeviceId(int deviceId) {

this.deviceId = deviceId;

}

public void setSerialNumber(String serialNumber) {

this.serialNumber = serialNumber;

}

public void setModel(String model) {

this.model = model;

}

public void setManufacturer(String manufacturer) {

this.manufacturer = manufacturer;

}

// Display method

public void display() {

System.out.println("Device Details:");

System.out.println("Device ID: " + deviceId);

System.out.println("Serial Number: " + serialNumber);

System.out.println("Model: " + model);

System.out.println("Manufacturer: " + manufacturer);

System.out.println();

}

}

4.Complaint:

public class Complaint {

private int complaintId;

private int subscriberId;

private String description;

private boolean resolved;

// Constructors

public Complaint() {}

public Complaint(int complaintId, int subscriberId, String description, boolean resolved) {

this.complaintId = complaintId;

this.subscriberId = subscriberId;

this.description = description;

this.resolved = resolved;

}

// Getters

public int getComplaintId() {

return complaintId;

}

public int getSubscriberId() {

return subscriberId;

}

public String getDescription() {

return description;

}

public boolean isResolved() {

return resolved;

}

// Setters

public void setComplaintId(int complaintId) {

this.complaintId = complaintId;

}

public void setSubscriberId(int subscriberId) {

this.subscriberId = subscriberId;

}

public void setDescription(String description) {

this.description = description;

}

public void setResolved(boolean resolved) {

this.resolved = resolved;

}

// Display method

public void display() {

System.out.println("Complaint Details:");

System.out.println("Complaint ID: " + complaintId);

System.out.println("Subscriber ID: " + subscriberId);

System.out.println("Description: " + description);

System.out.println("Resolved: " + (resolved ? "Yes" : "No"));

System.out.println();

}

}

5.Coverage:

public class Coverage {

private int coverageId;

private String area;

private boolean isCovered;

// Constructors

public Coverage() {}

public Coverage(int coverageId, String area, boolean isCovered) {

this.coverageId = coverageId;

this.area = area;

this.isCovered = isCovered;

}

// Getters

public int getCoverageId() {

return coverageId;

}

public String getArea() {

return area;

}

public boolean isCovered() {

return isCovered;

}

// Setters

public void setCoverageId(int coverageId) {

this.coverageId = coverageId;

}

public void setArea(String area) {

this.area = area;

}

public void setCovered(boolean covered) {

isCovered = covered;

}

// Display method

public void display() {

System.out.println("Coverage Details:");

System.out.println("Coverage ID: " + coverageId);

System.out.println("Area: " + area);

System.out.println("Is Covered: " + (isCovered ? "Yes" : "No"));

System.out.println();

}

}

6.Promotion:

import java.util.Date;

public class Promotion {

private int promotionId;

private String name;

private String description;

private Date startDate;

private Date endDate;

private double discountPercentage;

// Constructors

public Promotion() {}

public Promotion(int promotionId, String name, String description, Date startDate, Date endDate, double discountPercentage) {

this.promotionId = promotionId;

this.name = name;

this.description = description;

this.startDate = startDate;

this.endDate = endDate;

this.discountPercentage = discountPercentage;

}

// Getters

public int getPromotionId() {

return promotionId;

}

public String getName() {

return name;

}

public String getDescription() {

return description;

}

public Date getStartDate() {

return startDate;

}

public Date getEndDate() {

return endDate;

}

public double getDiscountPercentage() {

return discountPercentage;

}

// Setters

public void setPromotionId(int promotionId) {

this.promotionId = promotionId;

}

public void setName(String name) {

this.name = name;

}

public void setDescription(String description) {

this.description = description;

}

public void setStartDate(Date startDate) {

this.startDate = startDate;

}

public void setEndDate(Date endDate) {

this.endDate = endDate;

}

public void setDiscountPercentage(double discountPercentage) {

this.discountPercentage = discountPercentage;

}

// Display method

public void display() {

System.out.println("Promotion Details:");

System.out.println("Promotion ID: " + promotionId);

System.out.println("Name: " + name);

System.out.println("Description: " + description);

System.out.println("Start Date: " + startDate);

System.out.println("End Date: " + endDate);

System.out.println("Discount Percentage: " + discountPercentage + "%");

System.out.println();

}

}

7.CallDetailRecord:

import java.util.Date;

public class CallDetailRecord {

private int callId;

private int subscriberId;

private String phoneNumber;

private Date startTime;

private Date endTime;

private double duration;

private double cost;

// Constructors

public CallDetailRecord() {}

public CallDetailRecord(int callId, int subscriberId, String phoneNumber, Date startTime, Date endTime, double duration, double cost) {

this.callId = callId;

this.subscriberId = subscriberId;

this.phoneNumber = phoneNumber;

this.startTime = startTime;

this.endTime = endTime;

this.duration = duration;

this.cost = cost;

}

// Getters

public int getCallId() {

return callId;

}

public int getSubscriberId() {

return subscriberId;

}

public String getPhoneNumber() {

return phoneNumber;

}

public Date getStartTime() {

return startTime;

}

public Date getEndTime() {

return endTime;

}

public double getDuration() {

return duration;

}

public double getCost() {

return cost;

}

// Setters

public void setCallId(int callId) {

this.callId = callId;

}

public void setSubscriberId(int subscriberId) {

this.subscriberId = subscriberId;

}

public void setPhoneNumber(String phoneNumber) {

this.phoneNumber = phoneNumber;

}

public void setStartTime(Date startTime) {

this.startTime = startTime;

}

public void setEndTime(Date endTime) {

this.endTime = endTime;

}

public void setDuration(double duration) {

this.duration = duration;

}

public void setCost(double cost) {

this.cost = cost;

}

// Display method

public void display() {

System.out.println("Call Detail Record:");

System.out.println("Call ID: " + callId);

System.out.println("Subscriber ID: " + subscriberId);

System.out.println("Phone Number: " + phoneNumber);

System.out.println("Start Time: " + startTime);

System.out.println("End Time: " + endTime);

System.out.println("Duration (minutes): " + duration);

System.out.println("Cost: $" + cost);

System.out.println();

}

}

8.Service:

public class Service {

private int serviceId;

private String name;

private double monthlyFee;

// Constructors

public Service() {}

public Service(int serviceId, String name, double monthlyFee) {

this.serviceId = serviceId;

this.name = name;

this.monthlyFee = monthlyFee;

}

// Getters

public int getServiceId() {

return serviceId;

}

public String getName() {

return name;

}

public double getMonthlyFee() {

return monthlyFee;

}

// Setters

public void setServiceId(int serviceId) {

this.serviceId = serviceId;

}

public void setName(String name) {

this.name = name;

}

public void setMonthlyFee(double monthlyFee) {

this.monthlyFee = monthlyFee;

}

// Display method

public void display() {

System.out.println("Service Details:");

System.out.println("Service ID: " + serviceId);

System.out.println("Name: " + name);

System.out.println("Monthly Fee: $" + monthlyFee);

System.out.println();

}

}

9.PLAN:

public class Plan {

private int planId;

private String name;

private double monthlyFee;

private int includedMinutes;

private double minuteRate;

// Constructors

public Plan() {}

public Plan(int planId, String name, double monthlyFee, int includedMinutes, double minuteRate) {

this.planId = planId;

this.name = name;

this.monthlyFee = monthlyFee;

this.includedMinutes = includedMinutes;

this.minuteRate = minuteRate;

}

// Getters

public int getPlanId() {

return planId;

}

public String getName() {

return name;

}

public double getMonthlyFee() {

return monthlyFee;

}

public int getIncludedMinutes() {

return includedMinutes;

}

public double getMinuteRate() {

return minuteRate;

}

// Setters

public void setPlanId(int planId) {

this.planId = planId;

}

public void setName(String name) {

this.name = name;

}

public void setMonthlyFee(double monthlyFee) {

this.monthlyFee = monthlyFee;

}

public void setIncludedMinutes(int includedMinutes) {

this.includedMinutes = includedMinutes;

}

public void setMinuteRate(double minuteRate) {

this.minuteRate = minuteRate;

}

// Display method

public void display() {

System.out.println("Plan Details:");

System.out.println("Plan ID: " + planId);

System.out.println("Name: " + name);

System.out.println("Monthly Fee: $" + monthlyFee);

System.out.println("Included Minutes: " + includedMinutes);

System.out.println("Minute Rate: $" + minuteRate);

System.out.println();

}

}

10.PAYMENT:

import java.util.Date;

public class Payment {

private int paymentId;

private int subscriberId;

private Date paymentDate;

private double amount;

// Constructors

public Payment() {}

public Payment(int paymentId, int subscriberId, Date paymentDate, double amount) {

this.paymentId = paymentId;

this.subscriberId = subscriberId;

this.paymentDate = paymentDate;

this.amount = amount;

}

// Getters

public int getPaymentId() {

return paymentId;

}

public int getSubscriberId() {

return subscriberId;

}

public Date getPaymentDate() {

return paymentDate;

}

public double getAmount() {

return amount;

}

// Setters

public void setPaymentId(int paymentId) {

this.paymentId = paymentId;

}

public void setSubscriberId(int subscriberId) {

this.subscriberId = subscriberId;

}

public void setPaymentDate(Date paymentDate) {

this.paymentDate = paymentDate;

}

public void setAmount(double amount) {

this.amount = amount;

}

// Display method

public void display() {

System.out.println("Payment Details:");

System.out.println("Payment ID: " + paymentId);

System.out.println("Subscriber ID: " + subscriberId);

System.out.println("Payment Date: " + paymentDate);

System.out.println("Amount: $" + amount);

System.out.println();

}

}

MAIN METHOD:

package fooddelivery;

import java.util.Date;

public class Main {

public static void main(String[] args) {

// Creating Subscriber instances

Subscriber subscriber1 = new Subscriber(1, "123-456-7890", "John Doe", "123 Main St", 50.00);

Subscriber subscriber2 = new Subscriber(2, "987-654-3210", "Jane Smith", "456 Elm St", 75.00);

// Displaying Subscriber details

subscriber1.displayDetails();

subscriber2.displayDetails();

// Recharging balance for subscriber1

subscriber1.rechargeBalance(25.00);

// Making a call from subscriber2

subscriber2.makeCall(30); // 30 minutes call

// Creating CallDetailRecord instances

CallDetailRecord cdr1 = new CallDetailRecord(1, 1, new Date(), 10);

CallDetailRecord cdr2 = new CallDetailRecord(2, 1, new Date(), 20);

CallDetailRecord cdr3 = new CallDetailRecord(3, 2, new Date(), 30);

// Creating Invoice instances

Invoice invoice1 = new Invoice(1, 1, new Date(), new Date());

Invoice invoice2 = new Invoice(2, 2, new Date(), new Date());

// Adding CallDetailRecords to invoices

invoice1.addCallDetailRecord(cdr1);

invoice1.addCallDetailRecord(cdr2);

invoice2.addCallDetailRecord(cdr3);

// Displaying Invoice details

invoice1.display();

invoice2.display();

}

}

class CallDetailRecord {

private int callId;

private int subscriberId;

private Date callDate;

private int duration; // Duration in minutes

// Constructor

public CallDetailRecord(int callId, int subscriberId, Date callDate, int duration) {

this.callId = callId;

this.subscriberId = subscriberId;

this.callDate = callDate;

this.duration = duration;

}

// Getters and Setters

public int getCallId() {

return callId;

}

public void setCallId(int callId) {

this.callId = callId;

}

public int getSubscriberId() {

return subscriberId;

}

public void setSubscriberId(int subscriberId) {

this.subscriberId = subscriberId;

}

public Date getCallDate() {

return callDate;

}

public void setCallDate(Date callDate) {

this.callDate = callDate;

}

public int getDuration() {

return duration;

}

public void setDuration(int duration) {

this.duration = duration;

}

// Display method

public void display() {

System.out.println("Call Detail Record:");

System.out.println("Call ID: " + callId);

System.out.println("Subscriber ID: " + subscriberId);

System.out.println("Call Date: " + callDate);

System.out.println("Duration: " + duration + " minutes");

System.out.println();

}

}