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from enum import Enum

class Person:
    def __init__(self, firstName, lastName, phoneNumber, email):
        self.__firstName = firstName
        self.__lastName = lastName
        self.__phoneNumber = phoneNumber
        self.__email = email

    def setFirstName(self, firstName):
        self.__firstName = firstName

    def getFirstName(self):
        return self.__firstName

    def setLastName(self, lastName):
        self.__lastName = lastName

    def getLastName(self):
        return self.__lastName

    def setPhoneNumber(self, phoneNumber):
        self.__phoneNumber = phoneNumber

    def getPhoneNumber(self):
        return self.__phoneNumber

    def setEmail(self, email):
        self.__email = email

    def getEmail(self):
        return self.__email

    def getFullName(self):
        return self.__firstName + " " + self.__lastName

    def __str__(self):
        return f"Name: {self.getFullName()}\n Cell Phone Number: {self.__phoneNumber}\nEmail: {self.__email}"

class Customer(Person):
    def __init__(self, firstName, lastName, phoneNumber, customerEID, email):
        super().__init__(firstName, lastName, phoneNumber, email)
        self.__customerEID = customerEID

    def setCustomerEID(self, customerEID):
        self.__customerEID = customerEID

    def getCustomerEID(self):
        return self.__customerEID

    def __str__(self):
        return f"{super().__str__()} \ncustomerEID: {self.__customerEID}"

class Mechanic(Person):
    def __init__(self, firstName, lastName, phoneNumber, email, employeeID, experience):
        super().__init__(firstName, lastName, phoneNumber, email)
        self.__employeeID = employeeID
        self.__experience = experience

    def setEmployeeID(self, employeeID):
        self.__employeeID = employeeID
    def getEmployeeID(self):
        return self.__employeeID
    def setExperience(self, experience):
        self.__experience = experience
    def getExperience(self):
        return self.__experience

class Color(Enum):
    white = 1
    Black = 2
    Silver = 3
    Red = 4

class Vehicle:
    def __init__(self, make, model, year, color, ID):
        self.__make = make
        self.__model = model
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        self.__year = year
        self.__color = color
        self.__ID = ID

    def setMake(self, make):
        self.__make = make

    def getMake(self):
        return self.__make

    def setModel(self, model):
        self.__model = model

    def getModel(self):
        return self.__model

    def setYear(self, year):
        self.__year = year

    def getYear(self):
        return self.__year

    def setColor(self, color):
        self.__color = color

    def getColor(self):
        return self.__color

    def getID(self):
        return self.__ID

    def getVehicleInfo(self):
        return self.__make + " " + self.__model + " " + str(self.__year)

class Service:
    def __init__(self, name, description, duration, price):
        self.__name = name
        self.__description = description
        self.__duration = duration
        self.__price = price

    def setName(self, name):
        self.__name = name

    def getName(self):
        return self.__name

    def setDescription(self, description):
        self.__description = description

    def getDescription(self):
        return self.__description

    def setDuration(self, duration):
        self.__duration = duration

    def getDuration(self):
        return self.__duration

    def setPrice(self, price):
        self.__price = price

    def getPrice(self):
        return self.__price

class Receipt:
    def __init__(self, Customer, mechanic, vehicle, services, date, taxes, discount):
        self.__customer=customer
        self.__mechainc=mechanic
        self.__vehicle=vehicle
        self.__services=services
        self.__date =date
        self.__taxes=taxes
        self.__discount=discount

    def setDate(self,date):
        self.__date = date

    def getDate(self):
        return self.__date

    def setTaxes(self,taxes):
        self.__taxes=taxes

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def getTaxes(self):
    return self.__taxes
def setDiscount(self,discout):
    self.__discount=discout
def getDiscount(self):
    return self.__discount

def total(self):
    total=sum(Service.getPrice() for Service in self.__services)
    total+=self.__taxes
    total-=self.__discount
    return total

def PrintReceipt(self):
    print("customer info : ")
    print(customer)
    print("Date:",self.__date)
    print('          ') # to create space and organize the Receipt

    print("Mechanic info : ")
    print(mechanic)
    print('          ') # to create space and organize the Receipt

    print("Vehicle Type:",self.__vehicle.getVehicleInfo())
    print("Vehicle color: ",self.__vehicle.getColor())
    print("Vehicle ID:",self.__vehicle.getID())

    print('          ')
    print("Services:",)

    for service in self.__services:
        print(service.getName() , ".....", service.getPrice(),"AED",".", "duration:", service.getDuration)
    print("Taxes:", self.__taxes)
    print("Discount:", self.__discount)
    print("Total:", self.total())

# Create a Customer object
customer = Customer("James", "Jones", "816-897-9862","1234567890", "jamesjones@example.com")

# Create a mechanic object
mechanic = Mechanic("Hans", "K", "0987654321", "janesmith@email.com", "M001", "5 years")
# Create a Vehicle object
vehicle = Vehicle("Nissan", "Altima", 2014, Color.Silver.name, "AD-89034")

# Create a Service object
diagnostics = Service("1.Diagnostics","looking at the care and dlajd","5 hours", 15.0)
oilReplacement = Service("2.Oil Replacement","changing the oil ","8 h", 120.49)
oilFilterParts = Service("3.Oil Filter Parts","changing oil Filter Parts","8 h", 35)
tireReplacement =Service("4.Tire Replacement 2 ","replace the tire ","5 h", 100)
tire= Service("5.Tire Replacement (2) ","replace the tire ","5 h", 160)

# Create a Receipt object
receipt = Receipt(customer, mechanic,vehicle=vehicle, services=[diagnostics,oilReplacement,oilFilterParts,tireReplacement,tire

# Print the receipt
receipt.PrintReceipt()

customer info :
Name: James Jones
Cell Phone Number: 816-897-9862
Email: jamesjones@example.com
customerEID: 1234567890
Date: March 13, 2022

Mechanic info :
Name: Hans K
Cell Phone Number: 0987654321
Email: janesmith@email.com

Vehicle Type: Nissan Altima 2014
Vehicle color: Silver
Vehicle ID: AD-89034

Services:
1.Diagnostics ..... 15.0 AED . duration: 5 hours
2.Oil Replacement ..... 120.49 AED . duration: 8 h
3.Oil Filter Parts ..... 35 AED . duration: 8 h
4.Tire Replacement 2 ..... 100 AED . duration: 5 h
5.Tire Replacement (2) ..... 160 AED . duration: 5 h

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Taxes: 51.5
Discount: 11.5
Total: 470.49

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