// Q1 Create a Vehicle class with brand, model, and year properties, and a method called drive() that prints a message indicating that the vehicle is being driven. Then create a Car class that inherits from Vehicle and has a numDoors property. Override the drive() method in the Car class to print a message that includes the number of doors.

class Vehicle {

String brand;

String model;

int year;

Vehicle(this.brand, this.model, this.year);

void drive() {

print('$brand $model ($year) is being driven.');

}

}

class Car extends Vehicle {

int numDoors;

Car(String brand, String model, int year, this.numDoors)

: super(brand, model, year);

@override

void drive() {

print('$brand $model ($year) with $numDoors doors is being driven by a racer in Dubai and got 2nd position.');

}

}

void main() {

Car myCar = Car('TOYOTA', 'SUPRA ', 2002, 2);

myCar.drive();

}

// Q2. Create a BankAccount class with balance and accountNumber properties, and methods called deposit() and withdraw() that modify the balance property. Then create a CheckingAccount class that inherits from BankAccount and has a transactionLimit property. Override the withdraw() method in the CheckingAccount class to check if the withdrawal amount is within the transaction limit before modifying the balance property.

class BankAccount {

double balance;

int accountNumber;

BankAccount(this.balance, this.accountNumber);

void deposit(double amount) {

balance += amount;

}

void withdraw(double amount) {

balance -= amount;

}

}

class CheckingAccount extends BankAccount {

double transactionLimit;

CheckingAccount(double balance, int accountNumber, this.transactionLimit)

: super(balance, accountNumber);

@override

void withdraw(double amount) {

if (amount <= transactionLimit) {

balance -= amount;

} else {

print('Withdrawal amount exceeds transaction limit.');

}

}

}

void main() {

CheckingAccount myAccount = CheckingAccount(5000.0, 576358, 1000.0);

print('Initial balance: \$${myAccount.balance}');

myAccount.withdraw(1000.0);

print('Balance after withdrawal: \$${myAccount.balance}');

}

// Q3. Create a Person class with firstName and lastName properties, and a method called fullName() that returns the full name of the person. Then create a Student class that inherits from Person and has a major property. Override the fullName() method in the Student class to include the major in the full name.

class Person {

String firstName;

String lastName;

Person(this.firstName, this.lastName);

String fullName() {

return '$firstName $lastName';

}

}

class Student extends Person {

String major;

Student(String firstName, String lastName, this.major)

: super(firstName, lastName);

@override

String fullName() {

return '$firstName $lastName ($major)';

}

}

void main() {

Person person = Person('Micheal', 'Sam');

Student student = Student('Tom', 'Kim', 'MBBS');

print('Person full name: ${person.fullName()}');

print('Student full name: ${student.fullName()}');

}