**题目一：图书类**

public class Book {

private String title;

private String author;

private int year;

public Book(String title, String author, int year) {

this.title = title;

this.author = author;

this.year = year;

}

public void displayInfo() {

System.out.println("Title: " + title + ", Author: " + author + ", Year: " + year);

}

}

Book book = new Book("Java Programming", "John Smith", 2021);

book.displayInfo();

**题目二：汽车类**

public class Vehicle {

private String brand;

private String color;

private int speed;

private int wheels;

public Vehicle(String brand, String color, int speed, int wheels) {

this.brand = brand;

this.color = color;

this.speed = speed;

this.wheels = wheels;

}

public void setBrand(String brand) {

this.brand = brand;

}

public String getBrand() {

return this.brand;

}

public void setColor(String color) {

this.color = color;

}

public String getColor() {

return this.color;

}

public void setSpeed(int speed) {

this.speed = speed;

}

public int getSpeed() {

return this.speed;

}

public void setWheels(int wheels) {

this.wheels = wheels;

}

public int getWheels() {

return this.wheels;

}

}

public class Car extends Vehicle {

private int loader;

public Car(String brand, String color, int speed, int wheels, int loader) {

super(brand, color, speed, wheels);

this.loader = loader;

}

public void start() {

System.out.println("Car is started");

}

public void accelerate(int speed) {

this.setSpeed(this.getSpeed() + speed);

System.out.println("Car is accelerating at speed " + this.getSpeed() + " km/h");

}

public void brake() {

System.out.println("Car is braking");

}

public void exceedLoader() {

if (this.loader > 5) {

System.out.println("这是一辆小车,能载5人,实载" + this.loader + "人,你超员了！！！");

}

Else {

System.out.println("这是一辆小车,能载5人,实载" + this.loader + "人");

}

}

}

public class Truck extends Vehicle {

private int loader;

private double payload;

public Truck(String brand, String color, int speed, int wheels, int loader, double payload) {

super(brand, color, speed, wheels);

this.loader = loader;

this.payload = payload;

}

public void start() {

System.out.println("Truck is started");

}

public void accelerate(int speed) {

this.setSpeed(this.getSpeed() + speed);

System.out.println("Truck is accelerating at speed " + this.getSpeed() + " km/h");

}

public void brake() {

System.out.println("Truck is braking");

}

public void exceedLoader() {

if (this.loader > 3) {

System.out.println("这是一辆卡车,能载3人,实载" + this.loader + "人,你超员了！！！");

}

Else {

System.out.println("这是一辆卡车,能载3人,实载" + this.loader + "人");

}

}

public void exceedPayload() {

if (this.payload > 5000) {

System.out.println("这是一辆卡车,核载5000kg,你已装载" + this.payload + "kg,你超载了！！！");

}

else {

System.out.println("这是一辆卡车,核载5000kg,你已装载" + this.payload + "kg");

}

}

}

public class Main {

public static void main(String[] args) {

Car car = new Car("Toyota", "Red", 50, 4, 3);

System.out.println("车轮的个数是:" + car.getWheels());

car.start();

car.accelerate(60);

car.brake();

car.setLoader(6);

car.exceedLoader();

Truck truck = new Truck("Volvo", "Blue", 40, 6, 1, 3000);

System.out.println("车轮的个数是:" + truck.getWheels());

truck.start();

truck.accelerate(30);

truck.brake();

truck.setPayload(7000);

truck.exceedLoader();

truck.exceedPayload();

}

}

**题目三：计算器类**

public class Calculator {

public double add(double a, double b) {

double result = a + b;

System.out.println("Addition: " + result);

return result;

}

public double subtract(double a, double b) {

double result = a - b;

System.out.println("Subtraction: " + result);

return result;

}

public double multiply(double a, double b) {

double result = a \* b;

System.out.println("Multiplication: " + result);

return result;

}

public double divide(double a, double b) {

double result = a / b;

System.out.println("Division: " + result);

return result;

}

}

**题目四：最长公共前缀**

public String longestCommonPrefix(String[] strs) {

if (strs == null || strs.length == 0) {

return "";

}

String prefix = strs[0];

for (int i = 1; i < strs.length; i++) {

while (strs[i].indexOf(prefix) != 0) {

prefix = prefix.substring(0, prefix.length() - 1);

if (prefix.isEmpty()) {

return "";

}

}

}

return prefix;

}

**//题目五：接雨水**