TASK 1

The taxis used by a taxi company are either cars or minibuses.

The unique registration and the charge (in $) per unit time are stored for all taxis.

All cars can carry a maximum of four passengers.

Data stored about minibuses also includes an extra charge (in $) per booking and the maximum number of passengers allowed.

The company needs software to process data about taxis.

The processing needs to include a calculation of the fare charged.

The software will be object-oriented.

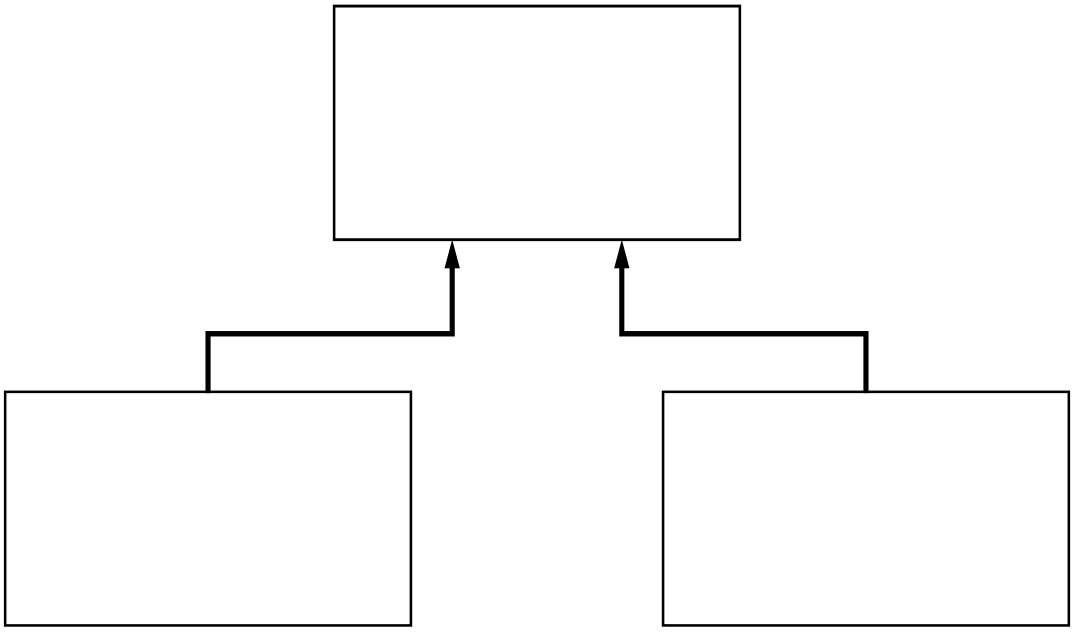
The superclass (also known as base class or parent class) `Taxi` is designed.

Two subclasses (also known as derived classes or child classes) have been identified:

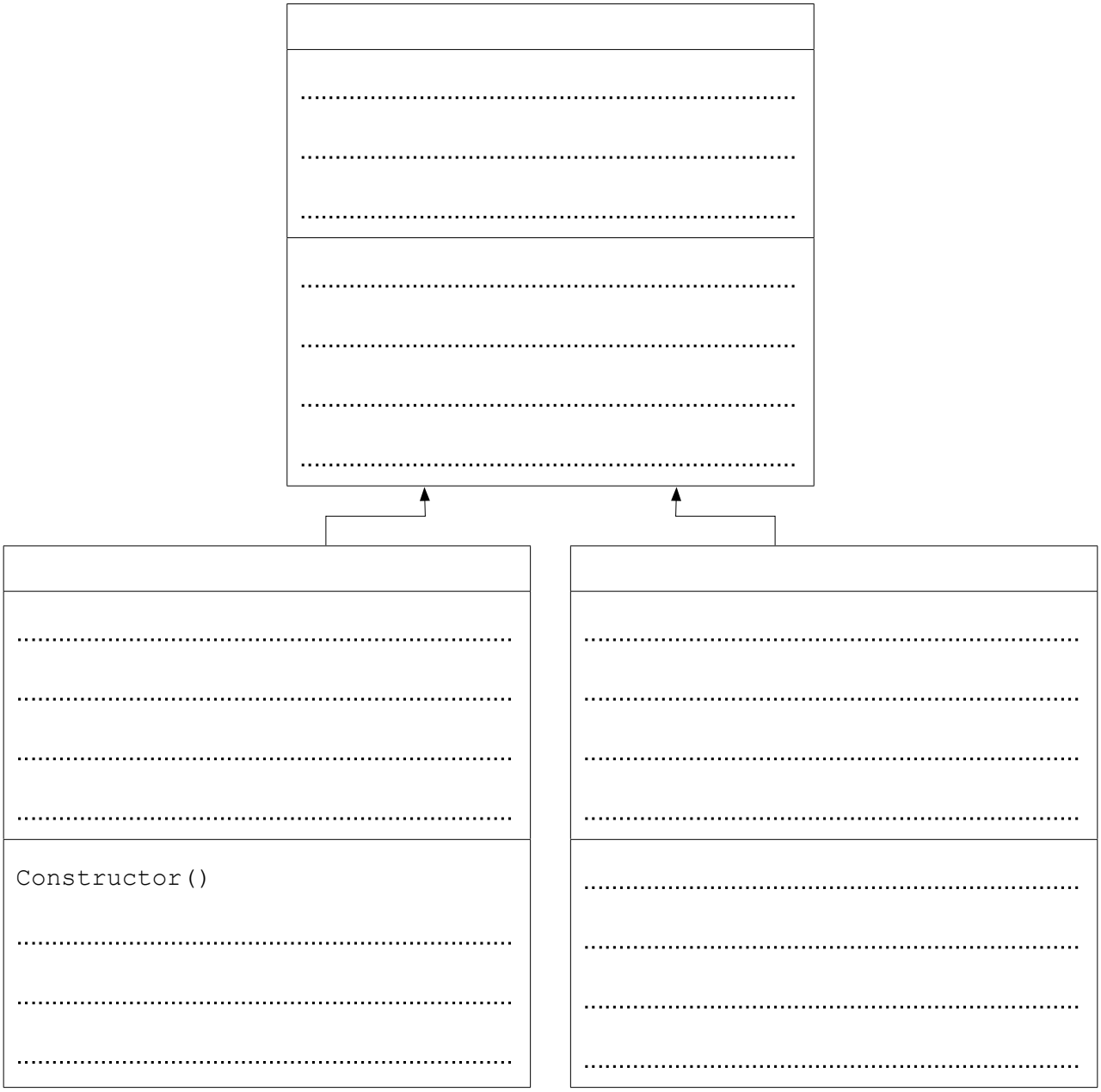
- `Car`
- `Minibus`

Key focus: Object-oriented Programming

TASK 1.1
Complete the **inheritance diagram.**



TASK 1.2
Complete the **class diagram** showing the appropriate properties and methods.



Note: a constructor is a method that creates a new instance of a class and initialises it.

TASK 1.3
Write **program code** for the class definitions. Make use of polymorphism and inheritance where appropriate.

TASK 1.4
Write **program code** to create a new instance of `Car`.

Suggested extension task
Write **program code** to display the properties of the object you created in Task 1.4.