Challenge 1: Cars and Engines!

In this exercise, you have to perform composition between a sedan car class and its engine!

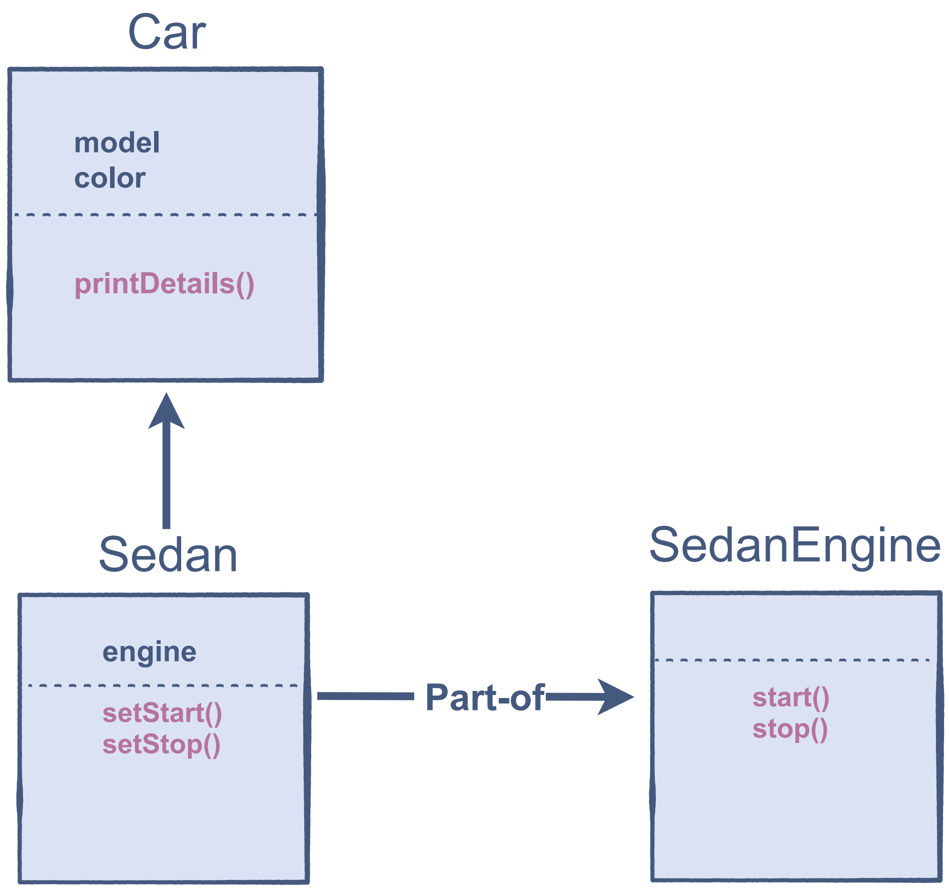
WE'LL COVER THE FOLLOWING

Problem Statement

You have to implement a `Sedan` **class**, which **inherits** from the `Car` **class** and contains a `SedanEngine` **object**.

> **Note:** You already know that in such a composition relation, the `Sedan` class will be responsible for `SedanEngine` lifetime.

Consider this diagram for reference:



Task 1

- `Car` initializer should take arguments in the order `Car(model,color)`.
- `Car` class should have *two* properties:

  1. `model`
  2. `color`

- `Car` class should have *one* method:

  1. `printDetails()`, which will print `model` and `color` of the `Car` object.

Task 2

- `SedanEngine` class will have *two* methods:

1. `start()`, which will print:

```
Car has started.
```

1. `stop()`, which will print:

```
Car has stopped.
```

Task 3

- `Sedan` initializer should take arguments in the order `Sedan(model, color)`.

- `Sedan` class will have *one* property:

  1. `engine`, which is a `SedanEngine` class object that should be created when the object is initialized.

- `Sedan` class will have *two* methods:

  1. `setStart()`, which will call the `start()` method of `SedanEngine`.

  2. `setStop()`, which will call the `stop()` method of `SedanEngine`.

Sample Input

```
car1 = Sedan("Toyota","Grey")
car1.setStart()
car1.printDetails()
car1.setStop()
```

Sample Output

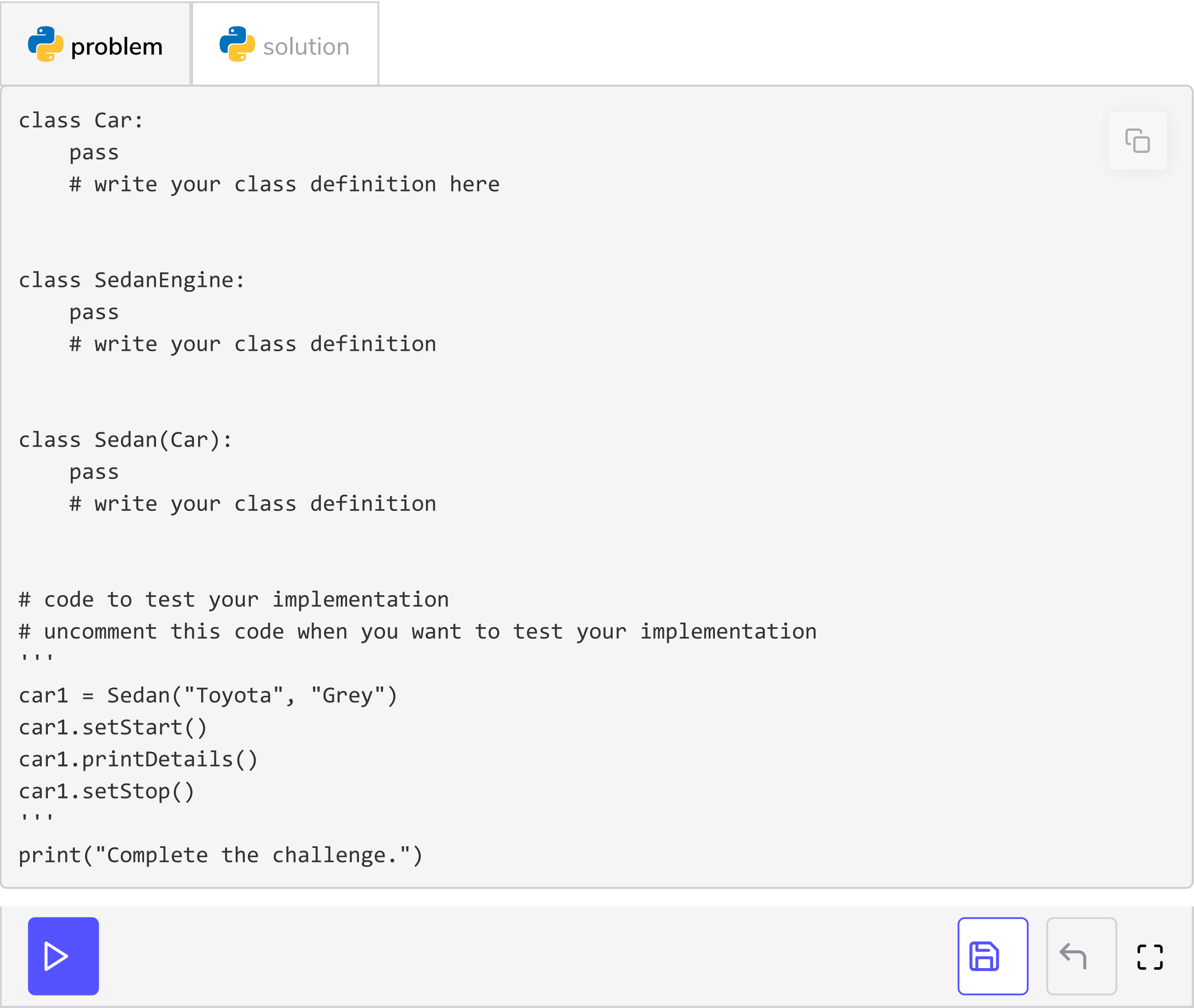
After the implementation of your classes, the code below should produce the following output

```
Car has started.
Model: Toyota
Color: Grey
Car has stopped.
```

Coding Exercise

First, take a close look and design a step-by-step algorithm before jumping to the implementation. This problem is designed for your practice, so initially try to solve it on your own. If you get stuck, you can always refer to the solution provided in the solution review.

Good luck!



```
class Car:
    pass
    # write your class definition here


class SedanEngine:
    pass
    # write your class definition


class Sedan(Car):
    pass
    # write your class definition


# code to test your implementation
# uncomment this code when you want to test your implementation
'''
car1 = Sedan("Toyota", "Grey")
car1.setStart()
car1.printDetails()
car1.setStop()
'''
print("Complete the challenge.")
```

The solution is explained in the next lesson!