Challenge 1: Implement the Derived Class

Can you implement the Derived Class Function by using the Base Class functions? A solution is placed in the "solution" section to help you, but we would suggest you try to solve it on your own first.

WE'LL COVER THE FOLLOWING

- Problem Statement
  - Input
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Problem Statement

Implement a function `getDetails(string carName)` of the **Derived Class** `Car` which takes a string `carName` and append it with model name and speed. We have already implemented the **Base Class** `Vehicle` with the member functions ‘getModel()’ and `getSpeed()’ which return the model and speed of the car respectively.

Input

Car Name

Output

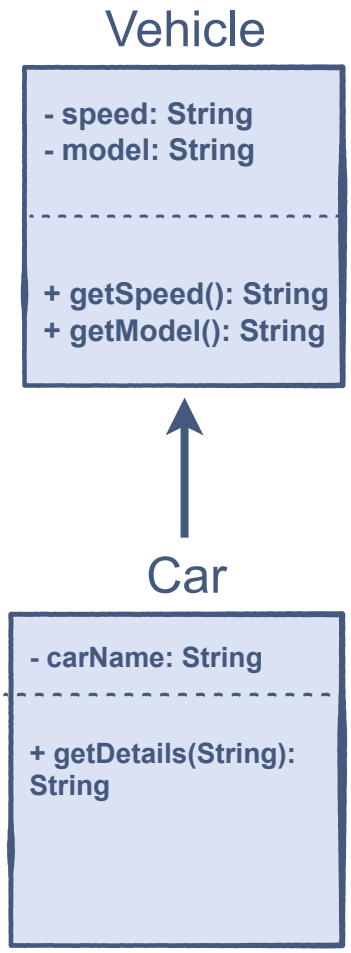
Car Name, Model, Speed

Sample Input

```
"Roadster"
```

Sample Output

```
"Roadster, Tesla, 100"
```



Based and Derived Classes Structure

Coding Exercise

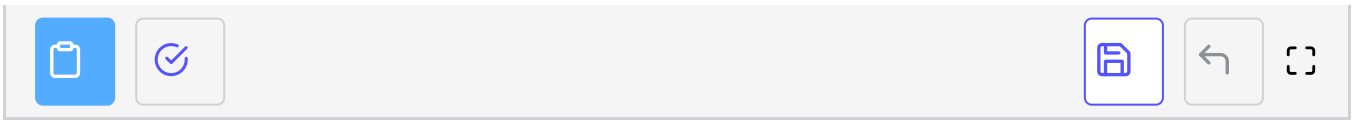
First, take a close look and design a step-by-step algorithm before jumping to the implementation. This problem is designed for your practice, so initially try to solve it on your own. If you get stuck, you can always refer to the solution provided in the solution section.

Good Luck!

Exercise | Solution

```
// Derived Class
class Car { // This line needs to be changed.

  string name; //  Name of a Car

  public:
  Car() { // Default Constructor
```

```
    name = "";
  }


  // This function sets the name of the car
  void setDetails(string name) { // Setter Function
    this->name = name;
  }

  // This function calls the Base class functions and appends the result with the input
  string getDetails(string carName) {

    string details = "";

    // write your code here

    return details;
  }
};
```



Solution Review

- We have implemented a `Vehicle` class which contain two private string variables **speed** and **model**
- In `Vehicle` default constructor set **speed** to *100* and **model** to *Tesla*
- Implement a `Car` class inherited from `Vehicle` and a private string variable **name**
- Create an instance of `Car` class and set it to **RoadSter**
- Now **getDetails** member function of `Car` call `vehicle` class member functions

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In the next challenge, we'll solve another problem to get more grip on inheritance.