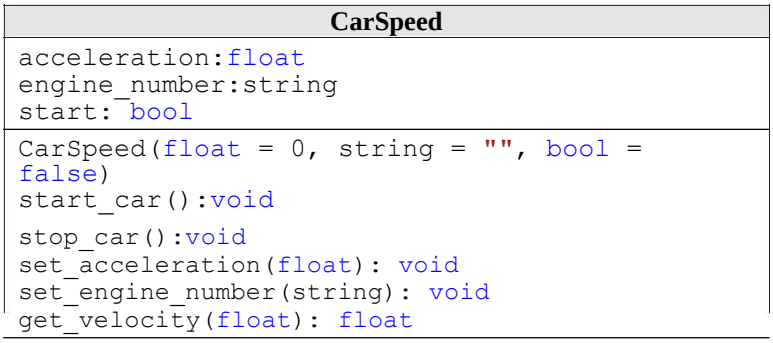
Lab task 1

The objectives of the questions are to:

- assess if students have understood the basic concepts of object-oriented class
- write the class specification, constructor, set and get methods
- write test driver to test the written methods

Examine the following class diagram, additional information and answer the questions that follow:



Additional Information:

Method	Remarks
`CarSpeed(float = 0, string = "", bool = false);`	Constructor with default values. Set the data members, *acceleration*, *engine_number* and *start* accordingly.
`start car():void`	Method of the data member, *start.* Set it to true. Display the message "Car started successfully".
`stop car():void`	Method of the data member, *start.* Set it to false. Display the message "Car stopped successfully".
`set acceleration(float): void`	Method of *acceleration*. Set and display the data member, *acceleration* accordingly.
`set engine number(string): void`	Method of *engine_number*. Set and display the data member, *engine_number* accordingly.
`get velocity(float): float`	Computes the velocity using the formula: *acceleration* * *time*. Prompts the user to enter the value for *time*. Before the computation of velocity, check that the car has started.
	If car is started, perform the computation.
	Return the velocity.
	If car not started display message `"start the car first then retrieve velocity after acceleration". Set the velocity to 0;`

(a) Develop C# code to implement the *CarSpeed* Class specification.
(b) Develop C# code to implement **ALL** the methods found in the *CarSpeed* class.
(c) Inspect the sample output, as shown below and write a test driver to test and fulfil the following requirements:

Uses a loop that repeats 3 times to prompt the user to enter the engine number, acceleration and time and use the various Methods to set the engine number, acceleration & time. It further invokes the method to compute and display the respective velocities. The velocity is displayed with **2 decimal places**.