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**Question 1**

a) **Methods of the Sports Car class:**

b) **SetMileage method in the Station Wagon class (True/False):**

c) **Generalization in class diagrams:**

**Question 2**

a) **Open-Close Principle:** The Open-Close Principle suggests that software entities (classes, modules, functions, etc.) should be open for extension but closed for modification. After analyzing the given class diagram, redesign the system so that the new diagram follows this principle. The goal is to ensure that you can extend functionality without changing existing code.

b) **Dependency Inversion Principle:** The Dependency Inversion Principle suggests that high-level modules should not depend on low-level modules. Both should depend on abstractions, and abstractions should not depend on details. Apply this principle to the given problem and modify the class diagram so that high-level components depend on abstractions.

**Question 3**

a) **Square Adapter Design:**

b) **Output of the Main Method:**

c) **Class Diagram for Adapter Pattern:** ­­­