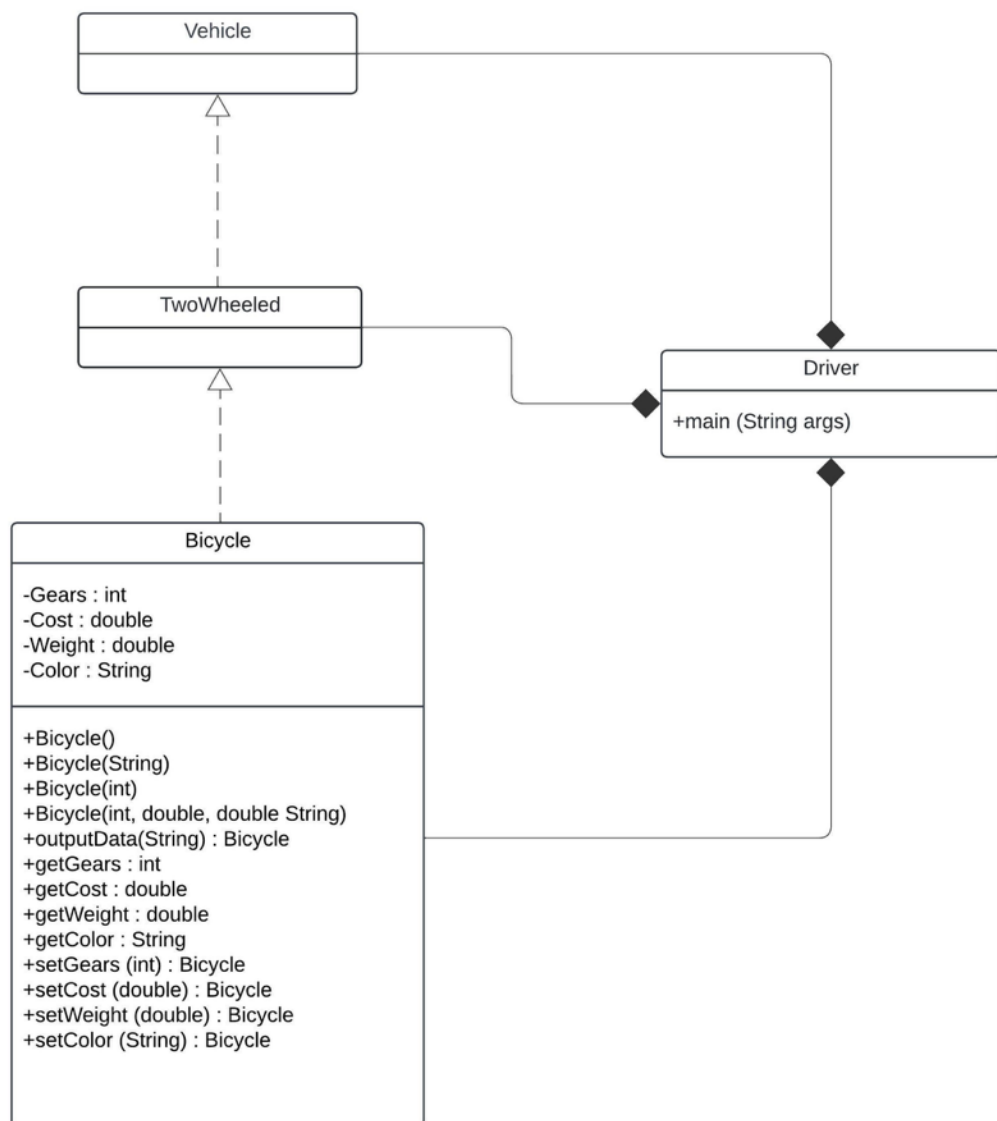


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CS-230

Module One Assignment



In the UML diagram, the Object-Oriented Principle of Inheritance is illustrated through the relationship between the Vehicle, TwoWheeled, and Bicycle classes, represented by a dashed line and an open arrow. Within the Bicycle class, attributes and operations are designated as public or private, with a "-" symbol indicating private instances and a "+" symbol indicating public instances. The inheritance structure shows that a Bicycle class derives from the TwoWheeled class, which, in turn, inherits from the Vehicle class, forming a parent-child hierarchy.

Additionally, there is a composite relationship between the Driver class and the other three classes, indicating that the Driver class is essential for the operation of the Vehicle, TwoWheeled, and Bicycle classes. This relationship is considered composite because a Bicycle can exist as an independent object, yet it can also be categorized as either a TwoWheeled or a Vehicle, allowing it to alternate between being a whole entity and existing in a dependent state. Overall, this diagram represents a Composition Class Diagram.