One of the advantages of an Object-Oriented programming language is code reuse. There are two ways we can do code reuse either by the vimplementation of inheritance (IS-A relationship), or object composition (HAS-A relationship). Although the compiler and Java virtual machine (JVM) will do a lot of work for you when you use inheritance, you can also get at the functionality of inheritance when you use composition.

IS-A Relationship:

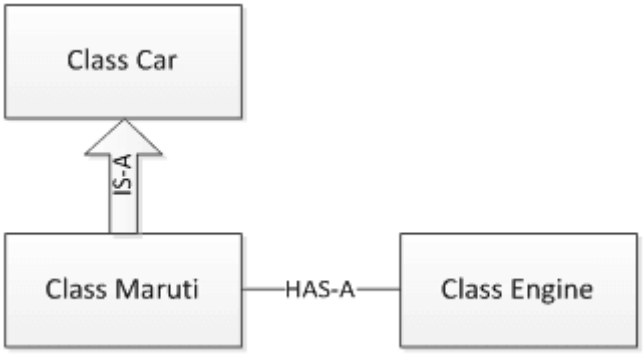
In object-oriented programming, the concept of IS-A is a totally based on Inheritance, which can be of two types Class Inheritance or Interface Inheritance. It is just like saying "A is a B type of thing". For example, Apple is a Fruit, Car is a Vehicle etc. Inheritance is uni-directional. For example, House is a Building. But Building is not a House.

It is a key point to note that you can easily identify the IS-A relationship. Wherever you see an extends keyword or implements keyword in a class declaration, then this class is said to have IS-A relationship.

HAS-A Relationship:

Composition(HAS-A) simply mean the use of instance variables that are references to other objects. For example Maruti has Engine, or House has Bathroom.

Let’s understand these concepts with an example of Car class.



https://www.w3resource.com/java-tutorial/inheritance-composition-relationship.php