**Inheritance** in java – is a crucial part of OOP. The process of inheriting the properties and behavior of an existing class into a new class is known as inheritance. When we inherit a class we will reuse the original class’s methods and fields in a new class. (Parent-Child relation)

Ex: -

Assume Human is a class with properties such as height, weight, age, gender etc. as well as functions (methods) like eating(), sleeping(), working() etc.

We now want to create male and female classes. They share common properties and behaviors. They will inherit these properties and functions from the human class.

**Why we use inheritance** –

* The primary advantage is code reuse
* Only inheritance can achieve runtime polymorphism (method overloading)

**Important terminologies** –

1. Super class – the super class is the class whose features are inherited by subclass. (Parent class)
2. Sub class – the sub class is the class that inherits other class. (Child/Derived class)

The diamond problem in java – because of the diamond problem java does not support multiple inheritances.

Ex: -

A, b, c are the 3 classes. Both A & B are inherited by c. if 2 classes A & B have the same method, and we call it form a child class object (class c object). In this case, it would be unclear whether to call the methods of a class A or class B. as a result if we inherit 2 classes, the compiler will generate a compile time error.