

## 1 Inheritance in Java

Inheritance is an important pillar of OOP(Object Oriented Programming). It is the mechanism in java by which one class is allow to inherit the features(fields and methods) of another class.

### Important terminology:

- **Super Class:** The class whose features are inherited is known as super class(or a base class or a parent class).
- **Sub Class:** The class that inherits the other class is known as sub class(or a derived class, extended class, or child class). The subclass can add its own fields and methods in addition to the superclass fields and methods.
- **Reusability:** Inheritance supports the concept of “reusability”, i.e. when we want to create a new class and there is already a class that includes some of the code that we want, we can derive our new class from the existing class. By doing this, we are reusing the fields and methods of the existing class.

The keyword used for inheritance is extends.

```
1 | class A
2 | //parent class OR base class OR super class
3 | {
4 |     m1() { }
5 |     m2() { }
6 | }
7 | class B extends A
8 | //child class OR derived class OR sub class
9 | {
10 |     m3() { }
11 |     m4() { }
12 | }
13 | class C extends A,B //not allowed
14 | {
15 |     m5() { }
16 |     m6() { }
17 | }
```

Inheritance.txt

//code Reusability

class A contains m1 m2 methods

class B contains m1,m2,m3,m4 methods

java not supports multiple inheritance  
so class C is wrong