Polymorphism

The word polymorphism is derived from the Greek words poly(meaning many), and morph(meaning form). Thus, polymorphism is the ability of an object to take more than one form.

Polymorphism implies one method performing same/similar task based on different context [**as in method overloading]** or performing redefine task or enhanced task [**as in method overriding**].

**Polymorphism classified into-**

1. Static/early binding/ Compile time polymorphism
2. Dynamic/ late binding/Run time polymorphism

**Static binding-early binding**

When a method is associated to **the object/class during compilation** is called **static binding.**Example

– Best example is “**method overloading”.**

**Note:**

* + - 1. **During compilation compiler knows which method to call because the parameters are different even though method name is same, hence clear to compiler**
      2. Method gets attached with method body based on parameter during compilation time, hence called early binding

**Dynamic Binding-**

When a **method is associated to the object during execution** is called dynamic binding.Example **Method overriding**

– To achieve upcasting, below conditions are must

* 1. **Inheritance**
  2. **overriding**
  3. **upcasting**

**Note:**

**1. During compilation compiler gets confused because same method name and same parameters. During execution JVM will override child method with parent method.**

**2. in method overriding method call will attached with method body , depending on type of object , hence late binding**