**Java 8**

**Method Reference**

**It is used to simply the code written inside {} of Lambda Expression.**

**Syntax :**

**ClassName::methodName**

Ex,

// Using Lambda Expression  
Function<String,String> usingLambda = word -> word.toUpperCase();  
  
// Using Method Reference  
**Function<String,String> usingMethodReference = String::toUpperCase;**

// In Functional Interface  
// Using Lambda Expression  
 Function<String,String> usingLambda = word -> word.toUpperCase();  
 System.*out*.println(usingLambda.apply("AadaPadaKonPada"));  
  
 // Using Method Reference  
 **Function<String,String> usingMethodReference = String::toUpperCase;**  
 System.*out*.println(usingMethodReference.apply("bantiWedsBabli"));  
  
 // In Consumer Interface  
 List<Student> studentList = StudentDataBase.*getAllStudents*();  
 // Using Lambda Expression  
 Consumer<Student> usingLambda1 = curStudent -> System.*out*.println(curStudent);  
 studentList.forEach(usingLambda1);  
  
 // Using Method Reference  
 Consumer<Student> usingMethodReference1 = System.*out*::println;  
 studentList.forEach(usingMethodReference1);  
  
 Consumer<Student> usingLambda2 = curStudent -> curStudent.printActivities();  
 studentList.forEach(usingLambda2);  
  
 Consumer<Student> usingMethodReference2 = Student::printActivities;  
 studentList.forEach(usingMethodReference2);

**Implementing Method Reference where it cannot be directly implemented**

public class MethodReferenceIndirectImplementation {  
 // Implementing Method Reference where it cannot be directly implemented  
 static Supplier<Student> *studentSupplier* = () -> new Student("bimlesh",3,4.4,"male", Arrays.*asList*("kirket", "tebal tanis","fud"));  
  
  
 // We cannot directly create method reference for Predicate Interface. But we can create boolean method and use it.  
 // Using Lambda Expression  
 static Predicate<Student> *usingLamda* = student -> student.getGpa() > 3;  
  
 // Using Method Reference Expression  
 static boolean gpaGreater3 (Student s){  
 return s.getGpa() > 3;  
 }  
 static Predicate<Student> *usingMethodReference* = MethodReferenceIndirectImplementation::*gpaGreater3*;  
  
 public static void main(String[] args) {  
 System.*out*.println(*usingLamda*.test(*studentSupplier*.get()));  
 System.*out*.println(*usingMethodReference*.test(*studentSupplier*.get()));  
 }  
}

**Note: It’s not necessary that every code must be compatible with Method Reference. Bss ye aur short code likhne ke liye bana h.**

**Constructor Reference**

**It is used to create new object of a class. Bss itna hi.**