1. Why Final Methods cannot be overridden in java?
2. Why runtime polymorphism does not happen when a function is static in java?

Ans: we cannot override static methods in java. static means common to all objects. once we override it will take as se

1. Why private methods are final in java?

Ans: We cannot override final methods in java, because final means fixed(no change in behavior),Method overriding means changing behavior. So both are contradicting the reason final methods cannot be overridden in java.

1. Why we cannot override private methods in java?

Ans. Scope of private methods is up to the class level only.so we cannot override private methods in java.

1. Protected members are accessible within a package and inherited classes outside the package.

Access Modifiers within class within package subclass in other package other package

Public yes yes yes yes

Private yes no no no

Default yes yes no no

Protected yes yes yes(through inheritance) no

Access modifiers:

classes

Final yes. (cannot create an object)

Abstract yes .

Private yes(only inner classes).

Public yes.

Protected no.

Method OverridingRules:

(1) The method**argument list in overridden and overriding methods must be exactly same**

(2) private, final ,static methods cannot be overridden.(No compile time error).

(3) **return type of overriding method can be child class of return type declared in overridden method.**

**Wrapper Class Hierarchy**

**Object**

**Number Boolean Character**

**Byte Short Integer Long Float Double.**

**Data Type**

**PrimitiveTypes NonPrimitiveTypes(ReferenceTypes)**

**Boolean Types NumericTypes(Number) Object**

**boolean Integeral FloatingTypes NonArray Array**

**byte float Wrapper Non-Wrapper int[]**

**char short double Boolean String object[]**

**int Byte Date String[]**

**long Short**

**char Integer**

**Long**

**Charcater**

**Float**

**Double**

**Object**

**Throwable**

**(java.lang.Throwable)**

**Error Exception**

**(java.lang.error) (java.lang.Exception) RunTimeException**

**Out Of Memory Error IOException (java.lang.runtime)**

**Stack overflow error SQLException Arithmetic**

**FileNotFoundException Null pointer**

**ClassNotFoundException ArrayIndexof**

**IllegalArgumentException**

(4) **Overriding method can not throw checked Exception higher in hierarchy** than thrown by overridden method.(Not applicable for runtime exceptions).

(5) Also note that**overriding method can not reduce the access scope of overridden method.**

**(low to high)**

**Private**

**Default**

**Protected**

**Public**

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