

Subclassing & Method Overriding

Talk to a Teacher

<http://spoken-tutorial.org>

National Mission on Education through ICT

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Talk to a Teacher

Learning Objectives



Learning Objectives

- **subclassing**



Learning Objectives

- subclassing
- **extends keyword**



Learning Objectives

- subclassing
- extends keyword
- **overriding**



Software Requirements



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- **Ubuntu 12.04**



Software Requirements

- Ubuntu 12.04
- **JDK 1.7**



Software Requirements

- Ubuntu 12.04
- JDK 1.7
- Eclipse 4.3.1



Prerequisite



Prerequisite

- **Knowledge of basics of Java and Eclipse IDE**



Prerequisite

- Knowledge of basics of Java and Eclipse IDE
- For relevant Java tutorials please visit our website

<http://www.spoken-tutorial.org>



Subclassing



Subclassing

- It is a way to create a new class from an existing class



Subclassing

- It is a way to create a new class from an existing class
- The new class created is subclass or derived class or child class



Subclassing

- It is a way to create a new class from an existing class
- The new class created is **subclass** or **derived class** or **child class**
- **The already existing class is called superclass or base class or parent class**



Private members in a superclass



Private members in a superclass

- **A subclass does not inherit the private members of its superclass**



Private members in a superclass

- A subclass does not inherit the private members of its superclass
- Subclass cannot directly access the private members of the superclass



Private members in a superclass



Private members in a superclass

- The superclass can have public or protected methods



Private members in a superclass

- The superclass can have public or protected methods
- These methods can access its private fields



Private members in a superclass

- The superclass can have public or protected methods
- These methods can access its private fields
- The subclass can also access the private fields through these methods



Method overriding



Method overriding

A method in the subclass

- is said to override the method in the parent class if:



Method overriding

A method in the subclass

- is said to override the method in the parent class if:
 - **name**



Method overriding

A method in the subclass

- is said to override the method in the parent class if:
 - name
 - **return type**



Method overriding

A method in the subclass

- is said to override the method in the parent class if:
 - name
 - return type
 - **argument list**



Method overriding

A method in the subclass

- is said to override the method in the parent class if:
 - name
 - return type
 - argument list
- matches exactly



Annotations



Annotations

- start with at sign character(@)



Annotations

- start with at sign character(@)
- provide data about a program



Annotations

- start with at sign character(@)
- provide data about a program
- have no direct effect on the operation of the code



Override Annotation



Override Annotation

If a method is annotated with **@Override**, compiler generates error if:

- **the method does not override a method declared in its superclass**



Override Annotation

If a method is annotated with **@Override**, compiler generates error if:

- the **method** does not **override** a method declared in its **superclass**
- **the method signature is different in its superclass**



Summary



Summary

- **Subclassing**
- **Method overriding**



Assignment



Assignment

- Create a class **Vehicle** which has a method **run** that prints **The Vehicle is running.**



Assignment



Assignment

- Create a class **Bike** which has a method **run** that prints **The Bike is running safely**



Assignment



Assignment

- The output should be The bike is running safely



About the Spoken Tutorial Project

- Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
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Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- Conducts workshops using spoken tutorials
- Gives certificates to those who pass an online test
- For more details, please write to contact@spoken-tutorial.org



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- More information on this Mission is available at <http://spoken-tutorial.org/NMEICT-Intro>

