

Static Methods

Spoken Tutorial Project

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

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Learning Objectives



Learning Objectives

- **What are static methods**



Learning Objectives

- What are **static methods**
- **Defining** static methods



Learning Objectives

- What are **static methods**
- Defining **static methods**
- **Difference between instance methods and static methods**



Learning Objectives

- What are **static methods**
- Defining **static methods**
- Difference between **instance methods** and **static methods**
- **How to use static methods**



Software Requirements



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- **Ubuntu 14.04**



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- Ubuntu 14.04
- **JDK 1.7**



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- Ubuntu 14.04
- JDK 1.7
- **Eclipse 4.3.1**



Prerequisite



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- **Basic knowledge of Java and Eclipse IDE**



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- Basic knowledge of **Java** and **Eclipse IDE**
- **Knowledge of instance variables, methods, static variables in Java**



Prerequisite

- Basic knowledge of **Java** and **Eclipse IDE**
- Knowledge of **instance variables, methods, static variables** in Java
- **For relevant Java tutorials, please visit <http://www.spoken-tutorial.org>**



Static Method



Static Method

- **A Static method is a method which is associated with the entire class**



Static Method

- A **Static method** is a method which is associated with the entire **class**
- It is also called a **class method** and is declared using the **Static** keyword



Static Method




- A **Static method** is a method which is associated with the entire **class**
- It is also called a **class method** and is declared using the **Static** keyword
- **Static methods are usually used to handle Static variables**



Static Method - Example



Static Method - Example

Object	Name	ID	Organization	Total Count
	ADIL	IT101	IITB	3
	AMAL	EC101		
	CAROL	CS101		



Instance Vs Static Methods



Instance Vs Static Methods

- **Instance methods can access Static variables**



Instance Vs Static Methods

- **Instance methods** can access **Static variables**
- **A Static method can directly access and modify only Static variables**



Instance Vs Static Methods



Instance Vs Static Methods

- **Instance methods are invoked only by an object**



Instance Vs Static Methods

- **Instance methods** are invoked only by an **object**
- **A Static method can be invoked directly without creating an object**



Instance Vs Static Methods



Instance Vs Static Methods

- We cannot use 'this' and 'super' keyword inside a Static method



Instance Vs Static Methods

- We cannot use **'this'** and **'super'** keyword inside a **Static method**
- **These keywords refer to the instance of a particular class**



Instance Vs Static Methods

- We cannot use **'this'** and **'super'** keyword inside a **Static method**
- These keywords refer to the instance of a particular class
- **In a static context we can't refer to instances of a class**



Passing an object reference

- **Object references can be passed to a static method**



Passing an object reference

- Object references can be passed to a static method
- This way a static method can access the instance variables of that particular object



Summary

- What is a **static method** and when it is used
- How to differentiate **static methods** and **instance methods**
- How to create and invoke **static methods**



Assignment

- Design a class **CarService** to represent a Car Service Station
- This class should contain variables to represent the following
 - **Name** of the Service Station
 - Car **make, model, regno** and **status**
 - **No of Cars in** for Service
 - **No of Cars out** after Service



Assignment

- Define a method **service (Car c)** which updates the status to "out" and accordingly modify the values for
 - **No of Cars in** for Service
 - **No of Cars out** after Service
- Define a method **show()** to print the values of all the variables



Assignment

- Identify the **Instance variables** and **Static variables**
- Identify the **Instance methods** and **Static methods**
- Define a **constructor** to initialise the values for Car **make, model, regno** and **status**



Assignment

- Also create a Demo class containing the main method
 - Create a few **objects** of **CarService**
 - Invoke the **service()** method on some of them
 - Invoke the **show()** method using all the objects and verify the results



About the Spoken Tutorial Project

- Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- It summarises the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it



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>



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