

Function Overloading and Overriding in C++

Talk to a Teacher

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National Mission on Education through ICT

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Learning Objectives



Learning Objectives

► Function Overloading



Learning Objectives

- ▶ Function Overloading
- ▶ Function Overriding



Learning Objectives

- ▶ Function Overloading
- ▶ Function Overriding
- ▶ We will do this with the help of examples



System Requirements



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- ▶ Ubuntu OS v. 11.10



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- ▶ Ubuntu OS v. 11.10
- ▶ g++ Compiler v. 4.6.1



Introduction to function overloading



Introduction to function overloading

- ▶ Function Overloading means two or more functions can have same name



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- ▶ Function Overloading means two or more functions can have same name
- ▶ The number of arguments and the data-type of the arguments will be different



Introduction to function overloading

- ▶ Function Overloading means two or more functions can have same name
- ▶ The number of arguments and the data-type of the arguments will be different
- ▶ When a function is called it is selected based on the argument list



Introduction to function overriding



Introduction to function overriding

- ▶ Redefining a base class function in the derived class



Introduction to function overriding

- ▶ Redefining a base class function in the derived class
- ▶ The derived class function overrides the base class function



Introduction to function overriding

- ▶ Redefining a base class function in the derived class
- ▶ The derived class function overrides the base class function
- ▶ But the arguments passed are same



Introduction to function overriding

- ▶ Redefining a base class function in the derived class
- ▶ The derived class function overrides the base class function
- ▶ But the arguments passed are same
- ▶ And the return-type is also same



Difference

- Overloading can occur without inheritance



Difference

- ▶ Overloading can occur without inheritance
- ▶ Overriding occurs when one class is inherited from another



Difference

- ▶ Overloading can occur without inheritance
- ▶ Overriding occurs when one class is inherited from another
- ▶ In overloading the arguments and the return-type must differ



Difference

- ▶ Overloading can occur without inheritance
- ▶ Overriding occurs when one class is inherited from another
- ▶ In overloading the arguments and the return-type must differ
- ▶ In overriding the arguments and the return type must be same



Difference

- ▶ In overloading the function name is same



Difference

- ▶ In overloading the function name is same
- ▶ But it behaves differently depending on the arguments passed to them



Difference

- ▶ In overloading the function name is same
- ▶ But it behaves differently depending on the arguments passed to them
- ▶ In overriding the function name is same



Difference

- ▶ In overloading the function name is same
- ▶ But it behaves differently depending on the arguments passed to them
- ▶ In overriding the function name is same
- ▶ Derived class function can perform different operations from the base class



Summary

- ▶ **Function overloading**
 - ▶ eg. `int add(int, int, int);`
`float add(float, float);`
- ▶ **Function Overriding**
 - ▶ eg. `virtual int operations();`
`int operations();`
- ▶ **Difference between both**



Assignment

- ▶ Write a program that will calculate the area of rectangle, square and circle
- ▶ Using function overloading



About the Spoken Tutorial Project

- ▶ Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
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- ▶ More information on this Mission is available at:

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