

# Constructors and Destructors in C++

Talk to a Teacher

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

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# Learning Objectives



# Learning Objectives

## ► Constructors



# Learning Objectives

- ▶ **Constructors**
- ▶ **Types of constructors**



# Learning Objectives

- ▶ Constructors
- ▶ Types of constructors
- ▶ Destructors



# Learning Objectives

- ▶ Constructors
- ▶ Types of constructors
- ▶ Destructors
- ▶ Some 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 Constructors



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- ▶ A constructor is a member function



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- ▶ A constructor is a member function
- ▶ It has the same name as the class name



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- ▶ A constructor is a member function
- ▶ It has the same name as the class name
- ▶ Constructors cannot return values



# Introduction to Constructors

- ▶ A constructor is a member function
- ▶ It has the same name as the class name
- ▶ Constructors cannot return values
- ▶ It is automatically called when an object is created



# Types of constructors



# Types of constructors

- ▶ Parameterized Constructors



# Types of constructors

- ▶ Parameterized Constructors
- ▶ Copy Constructors



# Types of constructors

- ▶ Parameterized Constructors
- ▶ Copy Constructors
- ▶ Default Constructors



# Introduction to Destructors



# Introduction to Destructors

- ▶ Destructors are used to deallocate memory



# Introduction to Destructors

- ▶ Destructors are used to deallocate memory
- ▶ They are called when an object is destroyed



# Introduction to Destructors

- ▶ Destructors are used to deallocate memory
- ▶ They are called when an object is destroyed
- ▶ A destructor takes no arguments and has no return types



# Summary

- ▶ Constructors
  - ▶ eg. Addition
- ▶ Parameterized Constructor
  - ▶ eg. Addition obj(3,4)
- ▶ Destructors
  - ▶ eg. ~ Addition
- ▶ Default Constructor
  - ▶ eg. Subtraction



# Assignment

- ▶ Create a class named Division
- ▶ Create a constructor for the class
- ▶ Create a function divide which divides two given numbers



# About the Spoken Tutorial Project

- ▶ Watch the video available at [http://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](http://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- ▶ It summarises the Spoken Tutorial project



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- ▶ 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](mailto:contact@spoken-tutorial.org)



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- ▶ It is supported by the National Mission on Education through ICT, MHRD, Government of India
- ▶ More information on this Mission is available at:

<http://spoken-tutorial.org/NMEICT-Intro>

