Classes and Objects in C++

Talk to a Teacher
http://spoken-tutorial.org
National Mission on Education through ICT
http://sakshat.ac.in

Ashwini R Patil
IIT Bombay

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Learning Objectives

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- Classes

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- Objects

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- Encapsulation

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- Data Abstraction

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- Data Abstraction
- We will do this with the help of an example

System Requirements

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- Ubuntu OS v. 11.10

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- g++ Compiler v. 4.6.1

Introduction

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- Class is created using a keyword class

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- It holds data and functions
- Class links the code and data
- The data and functions of the class are called as members of the class

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- They are the copy of a class
- Each of them has Properties and Behavior
- Properties are defined through data elements
- Behavior is defined through member functions called methods

Syntax

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- class class-name

  {

  public/private/protected:

  Data members

  Member functions

  };

Access Specifiers

- Public specifier

- **Public specifier**
  - The public specifier allows the data to be accessed outside the class

Access Specifiers

- ▶ **Public specifier**

  - ▶ The public specifier allows the data to be accessed outside the class

  - ▶ A public member can be used anywhere in the program

Access specifiers

- Private specifier

Access specifiers

- **Private specifier**
  - The members declared as private cannot be accessed outside the class

Access specifiers

- Private specifier
  - The members declared as private cannot be accessed outside the class
  - Private members can be used only by the members of the class

Access Specifiers

- Protected specifier

Access Specifiers

- Protected specifier

  - Protected members cannot be accessed from outside the class

- Protected specifier
  - Protected members cannot be accessed from outside the class
  - They can be accessed by a derived class

Scope Resolution Operator

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- Suppose the local variable and the global variable have the same name
- The local variable gets the priority
- We can access the global variable using :: operator

Summary

- Encapsulation

- Data Abstraction
- Private members
  - eg. int x;
- Public functions
  - eg. int area(int);
- Classes
  - eg. class square

Summary

- To create object
  - eg. square sqr;
- To call a function using object
  - eg. sqr.area();

- Write a program to find the perimeter of a given circle

About the Spoken Tutorial Project

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