

Abstract class and pure virtual function in C++

Talk to a Teacher

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National Mission on Education through ICT

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Learning Objectives



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- Abstract Class



Learning Objectives

- ▶ Abstract Class
- ▶ Pure virtual function



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- ▶ Abstract Class
- ▶ Pure virtual function
- ▶ Through an example



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



Abstract Class



Abstract Class

- Abstract class is always a base class



Abstract Class

- ▶ Abstract class is always a base class
- ▶ It contains atleast one pure virtual function



Abstract Class

- ▶ Abstract class is always a base class
- ▶ It contains atleast one pure virtual function
- ▶ We cannot create an instance of abstract class



Pure Virtual Function



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- ▶ A pure virtual function is a function with no body



Pure Virtual Function

- ▶ A pure virtual function is a function with no body
- ▶ It is not defined in the base class



Pure Virtual Function

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- ▶ It is not defined in the base class
- ▶ It is declared as:



Pure Virtual Function

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- ▶ It is not defined in the base class
- ▶ It is declared as:
 - ▶ `virtual void virtualfunname()=0;`



Pure Virtual Function



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Pure Virtual Function

- ▶ A derived class must override the function
- ▶ Otherwise compiler will give an error
- ▶ It is upto a derived class to implement the function



Summary

- ▶ Abstract class
 - ▶ eg. `class abstractinterface`
- ▶ Pure virtual function
 - ▶ eg. `virtual void numbers()=0;`



Assignment

- ▶ Create an abstract class student
- ▶ Create a pure virtual function as Info
- ▶ Accept the name and roll no of the student in the function
- ▶ Create two derived class marks and sports



Assignment

- ▶ In marks accept marks of three subjects
- ▶ In sports enter marks scored in sports
- ▶ Calculate the total marks
- ▶ Then create another derived class result
- ▶ In this display the name, roll-no, total marks of the student



About the Spoken Tutorial Project

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- ▶ More information on this Mission is available at:

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