

Lesson 2:
Intro to OOP

SEARCH

RESOURCES

CONCEPTS

1. Classes and OOP

2. Bjarne On Classes In C++

3. Jupyter Notebooks

4. Structures

5. Member Initialization

6. Access Specifiers

7. Classes

8. Encapsulation and Abstraction

9. Bjarne on Encapsulation

10. Constructors

11. Scope Resolution

12._INITIALIZER Lists

13. Initializing Constant Members

14. Encapsulation

15. Accessor Functions

16. Mutator Functions

17. Quiz: Classes In C++

18. Exercise: Pyramid Class

19. Exercise: Student Class

20. Encapsulation in C++

21. Bjarne On Abstraction

22. Abstraction

23. Exercise: Sphere Class

24. Exercise: Private Method

25. Exercise: Static Members

26. Exercise: Static Methods

27. Bjarne On Solving Problems

Exercise: Student Class

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Exercise: Student Class

Your goal in this lab is to write a class called `Student` that will hold data about a particular student. Your class simply needs to store the data and provide accessors and mutators.

Directions

1. Add 3 *private* member variables to the class:

- Name
- Grade (e.g. 9th grade)
- Grade Point Average

2. Write a public constructor function to set the private attributes.

3. Create *public* member functions to set each of the member variables. Before setting the values verify that:

- Grade is from 0 (kindergarten) to 12
- GPA is from 0.0 to 4.0
- The function must either throw an exception if any of the invariants are violated

4. Within the `main()` (outside of the class), declare an object of type `Student` and test out each of the member function calls.

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Menu

Expand

NEXT