DAILY ASSESSMENT FORMAT

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Course:	C++ Programming	USN:	4AL18EC040
Topic:	Classes and Object More on Classes	Semester & Section:	4th sem 'A' sec
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FORENOON SESSION DETAILS
Image of session

Encapsulation

Part of the meaning of the word **encapsulation** is the idea of "surrounding" an entity, not just to keep what's inside together, but also to **protect** it.
In object orientation, encapsulation means more than simply combining attributes and behavior together within a class; it also means restricting access to the inner workings of that class.

The key principle here is that an object only reveals what the other application components require to effectively run the application. All else is kept out of view.

> ⓘ This is called **data hiding**.

Abstraction

Data **abstraction** is the concept of providing only essential information to the outside world. It's a process of representing essential features **without including implementation details**.

A good real-world example is a *book*: When you hear the term book, you don't know the exact specifics, i.e.: the page count, the color, the size, but you understand **the idea of a book** - the abstraction of the book.

> ⓘ The concept of **abstraction** is that we focus on essential qualities, rather than the specific characteristics of one particular example.

Classes and Object

Studied about objects object is an entity that has state and behavior.

Studied about class A class in C++ is the building block, that leads to Object-Oriented

Programming

Abstraction

Data Abstraction is a process of providing only the essential details to the outside world and hiding the internal details, i.e., representing only the essential details in the program.

Encapsulation

Encapsulation is a process of combining data members and functions in a single unit called class.

Example of Encapsulation

Constructors

Constructors have the same name as the class and may be defined inside or outside the class definition.

More on Classes

Separate files for Classes:

The header file has the extension of . h and contains class definitions and functions.

Destructors

Destructor is another special member function that is called by the compiler when the scope of the object ends.

Selection Operators

Selecting a data member means getting direct access to a members data, at most objects won't allow that as it breaks the hiding (or encapsulation) of its data.

Const Objects. The object called by these functions cannot be modified.

Member Initializers

The Friend Keyword When the function is declared as a friend, then it can access the private and protected data members of the class.

The This keyword It can be used to pass current object as a parameter to another method. It can be used to refer current class instance variable.

Operator Overloading